PROJECT INFORMATION

Project Title	Carman Creek Watershed Forest Ecosystem Health Improvement Project
Brief Description	The Carman Creek watershed is located in Plumas and Sierra Counties, within the Upper Middle Fork of the Feather River Watershed approximately 2 miles northeast of the town of Calpine, CA. Current land uses on National Forest lands are recreation, forest management, and grazing. Private lands adjacent to the National Forest are managed for timber, grazing and other agricultural uses. The proposed project includes 120 acres of hand thinning/fuels reduction which will improve forest health and resilience. Four stream/meadow restoration sites will improve approximately 30 acres of riparian habitat and 1.1 miles of stream within the West Fork drainage of Carman Creek. These projects are subsets of Carman Watershed Restoration Project Phase II and the Saddle Vegetation Treatment Project. Phase II of the restoration project includes ten identified restoration sites within the Carman Creek watershed's complex of meadows and streams identified in the U.S. Forest Service Watershed Assessment (USFS 2007) as high priority for restoration. The Carman Creek Watershed Restoration Project Phase I was completed in 2005 and addressed active erosion (down cut channels and active head cuts) in Knuthson Meadow, Three Cornered Meadow and several other unnamed small down-cut meadows. Fuels Reduction Approximately 120 acres of fuels reduction have been identified as high priority fuels reduction work within the West Fork Drainage of Carman Creek. The treatment identified is hand thinning and hand piling within the Carman Valley/Calpine Defensible Fuel Profile Zone. The project area has also been identified as a high priority for PAGE 2 OF 3 treatment within the Sierra County Fire Management Plan and is near the community of Calpine, CA. Meadow Restoration

	Site #4 has been disturbed by old railroad grade construction and actively erodes during large storms. The project will remove sections of railroad grade that are diverting the natural stream flow, relocate the flow into remnant channels on the old meadow surface and obliterate the eroded channel using native soil plugs. Approximately 1,500 feet of existing degraded channel and 500 feet of railroad grade would be obliterated. Site #5 is where an old road grade has captured the natural flow for a few hundred feet resulting in down-cutting and meadow dewatering. The project will remove the existing road grade and associated ditch and return the flow to the natural meadow channel system. Site #6 is where an old railroad grade has created a significant cut in a hillside and captured the stream causing erosion of the area. The project will reconnect the flow into the original channel and remove the through cut area (approximately 500 feet long). Site #7 is where railroad grade construction and subsequent culvert placement has caused a stream segment to down-cut and widen through the meadow area above and below the road. The project will remove the existing culvert, create a rocked low water crossing, and divert the stream (upper portion of the West Fork of Carman Creek) out of the gully and into remnant channels on the meadow surface. The 2,000 foot down-cut channel section would be closed off using native soil plugs.
Total Requested Amount	350,000.00
Other Fund Proposed	39,600.00
Total Project Cost	389,600.00
Project Category	Site Improvement/Restoration
Project Area/Size	120
Project Area Type	Acres
Have you submitted to SNC this fiscal year?	No
Is this application related to other SNC funding?	No

Project Results
Restoration

Project Purpose	Project Purpose Percent
Water Quality	

County
Plumas
Sierra

Sub Region
North Central

PROJECT CONTACT INFORMATION

Name	Mr. Gale Dupree,
Title	Chairman
Organization	Sierra Valley Resource Conservation District
Primary Address	P.O. Box 50, , , Vinton, CA, 96135
Primary Phone/Fax	530-993-6051 **Ext.**
Primary Email	ifish@earthling.net

PROJECT LOCATION INFORMATION

Project Location	
Address:	Carman Creek, , , Calpine, CA, 96124 United States
Water Agency:	Sierra County Water Works District
Latitude:	39.703423
Longitude:	-120.45496
Congressional District:	n/a
Senate:	n/a
Assembly:	n/a
Within City Limits:	No
City Name:	

ADDITIONAL INFORMATION

Grant Application Type

Grant Application Type:
Category One Site Improvement

PROJECT OTHER CONTACTS INFORMATION

Other Grant Project Contacts

Name:	Mr. Gale Dupree,
Project Role:	Day-to-Day Responsibility
Phone:	5309936051
Phone Ext:	
E-mail:	ifish@earthling.net

UPLOADS

The following pages contain the following uploads provided by the applicant:

Upload Name
Completed Application Checklist
Table of Contents
Full Application Form
Authorization to Apply or Resolution
Authorization to Apply or Resolution
Narrative Descriptions
Detailed Budget Form
CEQA Documentation
CEQA Documentation
NEPA Documentation
NEPA Documentation
Letters of Support
Letters of Support
Letters of Support

Letters of Support
Letters of Support
Letters of Support
Project Location Map
Topographic Map
Topographic Map
Topographic Map
Photos of the Project Site
Long Term Management Plan
Site Plan - Only Site Improv. or Restoration Proj.
Parcel Map Showing County Assessors Parcel Number
Letters of Support

To preserve the integrity of the uploaded document, headers, footers and page numbers have not been added by the system.

Full Application Checklist

Project Name: Carman Creek Watershed Forest Ecosystem Health Improvement Project

Applicant: Sierra Valley Resource Conservation District

Please mark each box: check if item is included in the application; mark "N/A" if not applicable to the project. "N/A" identifications must be explained in the application. Please consult with SNC staff prior to submission if you have any questions about the applicability to your project of any items on the checklist. All applications must include a CD including an electronic file of each checklist item, if applicable. The naming convention for each electronic file is listed after each item on the checklist. (Electronic File Name = EFN: "naming convention". file extension choices)

Submission requirements for all Category One and Category Two Grant Applications

1. ☒ Completed Application Checklist *(EFN: Checklist.doc,.docx,.rtf, or .pdf)*

2. ☒ Table of Contents *(EFN: TOC.doc,.docx,.rtf, or .pdf)*

3. ☒ Full Application Project Information Form *(EFN: SIform.doc, .docx, .rtf, or .pdf)*

4. ☒ Authorization to Apply or Resolution *(EFN: authorization.doc, .docx, .rtf, or .pdf)*

5. ☒ Narrative Descriptions - Submit a single document that includes each of the following narrative descriptions *(EFN: Narrative.doc, .docx, .rtf)*
   a. ☒ Detailed Project Description (5,000 character maximum)
      - ☒ Project Description including Goals/Results, Scope of Work, Location, Purpose, etc.
      - ☒ Project Summary
      - ☒ Environmental Setting
   b. ☒ Workplan and Schedule (1,000 character maximum)
   c. ☒ Restrictions, Technical/Environmental Documents and Agreements(1,000 character maximum)
   d. ☒ Organizational Capacity(1,000 character maximum)
   e. ☒ Cooperation and Community Support (1,000 character maximum)
   f. ☒ Long Term Management and Sustainability (1,000 character maximum)
   g. ☒ Performance Measures (1,000 character maximum)

6. Supplemental and Supporting documents
   a. ☒ Detailed Budget Form (EFN: Budget.xls, .xlsx)
   b. Restrictions, Technical/Environmental Documents and Agreements, as applicable
      - ☒ Restrictions / Agreements *(EFN: RestAgree.pdf)*
      - ☒ Regulatory Requirements / Permits *(EFN: RegPermit.pdf)*

☒ California Environmental Quality Act (CEQA) documentation *(EFN: CEQA.pdf)*
☒ National Environmental Policy Act (NEPA) documentation *(EFN: NEPA.pdf)*

c. Cooperation and Community Support
   ☒ Letters of Support *(EFN: LOS.pdf)*
d. Long-Term Management and Sustainability
   ☒ Long-Term Management Plan *(EFN: LTMP.pdf)*
e. Maps and Photos
   ☒ Project Location Map *(EFN: LocMap.pdf)*
   NA Parcel Map showing County Assessor's Parcel Number(s) *(EFN: ParcelMap.pdf)* **Projects are all on National Forest Lands**
   ☒ Topographic Map *(EFN: Topo.pdf)*
   ☒ Photos of the Project Site *(10 maximum) (EFN: Photo.jpg, .gif)*
f. Additional submission requirements <u>for Conservation Easement Acquisition applications only</u> - **<u>NA – not a conservation easement application</u>**
   NA Acquisition Schedule *(EFN: acqSched.doc,.docx,.rtf,.pdf)*
   NA Willing Seller Letter *(EFN: WillSell.pdf)*
   NA Real Estate Appraisal *(EFN: Appraisal.pdf)*
   NA Conservation Easement Language *(EFN: CE.pdf)*
g. Additional submission requirements <u>for Site Improvement / Restoration Project applications only</u>
   NA Land Tenure Documents – attach only if documentation was not included with Pre-application *(EFN: Tenure.pdf)* - **Projects are all on National Forest Lands**
   ☒ Site Plan *(EFN: SitePlan.pdf)*
   NA Leases or Agreements - **Projects are all on National Forest Lands**

I certify that the information contained in the Application, including required attachments, is accurate.

/s/ John Olofson — January 20, 2012
Signed *(Authorized Representative)* — Date

John Olofson - RCD Director
Name and Title *(print or type)*

Carman Creek Watershed/Forest Ecosystem Health Improvement Project

Table of Contents

Appendix B2

SIERRA NEVADA CONSERVANCY
PROPOSITION 84 - PROJECT INFORMATION FORM

Rev. August 2011

PROJECT NAME **Carman Creek Watershed Forest Ecosystem Health Improvement Project**

APPLICANT NAME *(Legal name, address, and zip code)*
Sierra Valley Resource Conservation District
PO Box 50
Vinton, CA 96135

PERSON WITH FISCAL MANAGEMENT RESPONSIBILITY FOR GRANT CONTRACT/INVOICING

Name and title – type or print	*Phone*	*Email Address*
☒Mr. Gale Dupree	(530) 993-6051	ifish@earthling.net
☐Ms.		

COUNTY ADMINISTRATOR OR PLANNING DIRECTOR CONTACT INFORMATION *(At least one entry Is required)*

Name: Randy Wilson *Phone Number: 530-283-6214*

Email address: randywilson@countofplumas.com

Name: *Phone Number:*

Email address:

NEAREST PUBLIC WATER AGENCY (OR AGENCIES) CONTACT INFORMATION *(At least one entry Is required)*

Name: Sierra County Water Works District #1 *Phone Number: 530-994-3610*

Email address: crowderpaula@gmail.com

Name: *Phone Number:*

Email address:

Please identify the appropriate project category below and provide the associated details *(Choose One)*

☒ Category One Site Improvement ☐ Category Two Pre-Project Activities
☐ Category One Conservation Easement Acquisition

☒ **Site Improvement/Conservation Easement Acquisition** Project area: Carman Creek Watershed - West Fork Drainage Total Acres: 35 ac riparian 120 acres fuel reduc. SNC Portion (if different): _____ Total Miles (i.e. river or stream bank): 1.24 mi SNC Portion (if different): _____	**Select one primary Site Improvement/Conservation Easement Acquisition deliverable** ☒ Restoration ☐ Enhancement ☐ Resource Protection ☐ Infrastructure Development / Improvement

For Conservation Easement Acquisitions Only ☐ Appraisal Included ☐ Will submit appraisal by_____	☐ Conservation Easement
☐ **Pre-Project Activities**	**Select <u>one</u> primary Pre-Project deliverable** ☐ Permit ☐ CEQA/NEPA Compliance ☐ Appraisal ☐ Plan ☐ Condition Assessment ☐ Biological Survey ☐ Environmental Site Assessment

[redacted]

Board of Directors Resolution No. 2012-1

In the matter of: A RESOLUTION APPROVING THE APPLICATION FOR GRANT FUNDS FOR THE Proposition 84 Healthy Forest Grant Program GRANT PROGRAM UNDER THE Safe Drinking Water, Water Quality and Supply,...Bond ACT OF 2006	Resolution No: 2012-1 Date: January 17, 2012

The following RESOLUTION was duly passed by the Board of Directors of the Sierra Valley Resource Conservation District at a regular meeting held January 17, 2012, by the following vote:

Ayes: Dobbas, Olofson, Dupree

Noes: None

Abstentions: None

Absent: Eileen Rose

Signed and approved by:

Gale Dupree

Chair, Board of Directors

WHEREAS, the Legislature and Governor of the State of California have provided Funds for the program shown above; and

WHEREAS, the Sierra Nevada Conservancy (SNC) has been delegated the responsibility for the administration of a portion of these funds through a local assistance grants program, establishing necessary procedures; and

WHEREAS, said procedures established by the Sierra Nevada Conservancy require a resolution certifying the approval of application(s) by the Applicant's governing board before submission of said application(s) to the SNC; and

WHEREAS, the Applicant, if selected, will enter into an agreement with the SNC to carry out the project; and

WHEREAS, the Sierra Valley Resource Conservation District has identified the

Carman Watershed Restoration Project as valuable toward meeting its mission and goals.

BE IT HEREBY RESOLVED by the Board of Directors of the Sierra Valley Resource Conservation District, [NGO name] that this Board:

- Approves the submittal of an application for the Carman Watershed Restoration project; and
- Certifies that Applicant understands the assurances and certification requirements in the application; and
- Certifies that Applicant or title holder will have sufficient funds to operate and maintain the resource(s) consistent with the long-term benefits described in support of the application; or will secure the resources to do so; and
- Certifies that Applicant will comply with all legal requirements as determined during the application process; and
- Appoints Gale Dupree, or designee, as agent to conduct all negotiations, execute and submit all documents, including but not limited to: applications, agreements, payment requests, and so on, which may be necessary for the completion of the aforementioned project(s).

PASSED AND ADOPTED by the Sierra Valley Resource Conservation Distric on the 17th day of January, 2012

5. Narrative Descriptions

a. Detailed Project Description

Project Summary - Restoration goals for Carman Creek Watershed/Forest Ecosystem Health Improvement Project (proposed projects) are to improve the health and extent of the forest and riparian ecosystems within the West Fork of the Carman Creek Watershed on National Forest Lands. This will be accomplished by reducing fuels loads and tree densities on 120 acres to improve stand health, reduce potential and severity of wildfire; restore meadow and stream systems at four sites (30 acres & 1.1 miles of stream) to reduce active erosion, improve water quality, restore floodplain function, increase flood attenuation, and increase groundwater levels.
.

Environmental Setting
The Carman Creek watershed is located in the northern Sierra Nevada, within the Upper Middle Fork of the Feather River watershed approximately 2 miles northeast of the town of Calpine. Current land uses on National Forest lands are recreation, forest management, and grazing. Private lands adjacent to the National Forest are managed for timber, grazing and other agricultural uses.

Detailed Project Description. The proposed project includes 120 acres of hand thinning/fuels reduction which will improve forest health and resilience and four stream/meadow restoration sites which will improve approximately 30 acres of riparian habitat and 1.1 miles of stream within the West Fork drainage as describe below.
These projects are subsets of Carman Watershed Restoration Project Phase II and the Saddle Vegetation Treatment Project. Phase II of the Carman Creek Watershed Restoration Project builds and expands on Phase I (completed). The Saddle Project builds and expands vegetation treatments from the Borda Project (completed) and also includes other vegetation treatments within the watershed. Phase II of the restoration project includes ten identified restoration sites within the Carman Creek watershed's complex of meadows and streams identified in the US Forest Service Watershed Assessment (USFS 2007) as high priority for restoration. Carman Creek Watershed Restoration Project Phase I was completed in 2005 and addressed active erosion (down cut channels and active head cuts) in Knuthson Meadow, Three Cornered Meadow and several other unnamed small downcut meadows.
Specific proposed actions include:

Fuels Reduction – Approximately 120 acres of fuels reduction have been identified as high priority fuels reduction work within the West Fork Drainage of Carman Creek. The treatment identified is hand thinning and hand piling within the Carman Valley/Calpine Defensible Fuel Profile Zone. The project area has also been identified as a high priority for treatment within the Sierra County Fire Management Plan and is near the community of Calpine, California.

Site #4 has been disturbed by old railroad grade construction and actively erodes during large storms. The proposed action would remove sections of railroad grade that are diverting the natural stream flow, relocate the flow into remnant channels on the old meadow surface and

obliterate the eroded channel using native soil plugs. Approximately 1,500 feet of existing degraded channel and 500 feet of railroad grade would be obliterated.

Site #5 is where an old road grade has captured the natural flow for a few hundred feet resulting in some downcutting and meadow dewatering. The proposed action would obliterate the road grade and associated flow ditch and return the flow to the meadow channel system.

Site #6 is where an old railroad grade created a through cut in a hillside and captured the stream causing erosion of the area. The proposed action would reconnect the flow into the original channel and obliterate the through cut area (approximately 500 feet long).

Site #7 is where railroad grade construction and subsequent culvert placement has caused a stream segment to downcut and widen through the meadow area above and below the road. The proposed action would remove the existing culvert, create a rocked low water crossing, divert the stream (upper portion of the West Fork of Carman Creek) out of the gully and into remnant channels on the meadow surface. The 2,000 foot downcut channel section would be closed off using native soil plugs.

These projects **meet the requirements of Proposition 84** by protecting and restoring streams, riparian meadows, forested lands and the associated watershed. These projects are also **consistent with the SNC mission** by improving the environmental conditions and adding economic opportunities to the area around the Sierra Valley and of this part of the Sierra Nevada. These projects are **consistent with the SNC Program Goals** by:

- enhancing tourism and recreational experiences within the watershed;
- protecting, conserving and restoring physical, cultural, archaeological, and living resources;
- aiding in preservation of the working landscapes within the watershed;
- reducing the risk of wildfire;
- assisting the economy by creating jobs to complete the work; and,
- enhancing public lands for the use and enjoyment of the public.

b. Workplan and Schedule

Task 1. Award notification. June 2012.
Task 2. Contract with SNC signed. August 2012.
SVRCD assumes a contract will be signed within 3 months of award.
Deliverable: signed contract.
Task 3. Pre-project monitoring. August 2012 - July 2013.
Photo-monitoring, vegetation monitoring, and ground water monitoring.
Deliverable: Monitoring Results
Task 4. Project Layout. Layout will be done as projects are scheduled for implementation.
Task 5. Select Contractor for vegetation treatments and site restoration work. May-June. 2013 & 2014. Projects are scheduled for two years.
Deliverable: Copy of signed work agreements.
Task 6. Implement vegetation treatments and restoration at sites 4-7. July–October 2013 & 2014. Equipment work will be conducted when the ground is dry

Deliverable: Photo-documentation including pre-, during, and post-project photographs.

Task 7. Post-project monitoring. August–December 2013 and 2023.
Post-project monitoring and report will be completed during grant cycle.
Deliverable: Monitoring Report

Task 8. Final project report. March 2012.
Deliverable: Final Project Report

Detailed Project Deliverable	Timeline	
	Initiation Date	Completion Date
Contract with SNC	June 2012	August 2012
Pre project monitoring	August 2012	June 2013
Project layout *	August 2012	October 2013
Contracting preparation and contractor * selection	May 2013 May 2014	July 2013 July 2014
Implement timber treatments	June 2013	September 2014
Implement site restoration at sites 4-7	June 2013	October 2014
Project Monitoring – during and after	July 2013	November 2014
6 Month progress reports		Every 6 months
Invoicing		At the end of each calendar quarter Aug. 2012 – 2014
Final project report	November 2014	December 2014
*Project layout, contracting, and implementation may occur in more than one time frame. Projects are scheduled to be spread over a 3 years beginning in 2012.		

c. Restrictions, Technical/Environmental Documents and Agreements

The proposed projects are all on national forest lands and so there are no property restrictions and/or encumbrances.
CDFG streambed alteration permit is not needed for federal projects on federal land.
Consultation with US Fish & Wildlife Service is not needed. There are no threatened or endangered species involved.
US Army Corp of Engineers 404 permit is needed and is in progress. Preliminary info and wetland delineation has been submitted.
Regional Water Board 401certification is needed and is in progress. Application has been submitted.
State Historic Preservation Office concurrence was needed for removing sections of the historic RR grades. SHPO concurred with evaluation stating grades are not eligible for register in 2000.
Local government agencies have been notified.

These projects are subject to NEPA. NEPA assessment was completed in 2008 and 2012. Decision notices are attached.
These projects are exempt from CEQA. Notices of exemption are attached.

d. Organizational Capacity

The Sierra Valley Resource Conservation District (SVRCD) will act as the project lead and fiscal agent. The US Forest Service will work with the SVRCD to complete the project. The SVRCD and US Forest Service have worked together on several similar projects, including implementing Carman Phase I. The SVRCD is one of the oldest Special Districts in California, having been coordinating local conservation and restoration programs for over 60 years. SVRCD has contracted staff with technical expertise in fiscal management. Gale Dupree is the President of the SVRCD and the lead contact for this grant application. The US Forest Service has staff committed with the technical expertise to implement construction and oversee vegetation monitoring. Randy Westmoreland is the Watershed Program Manager for the east portion of the Tahoe National Forest and is the lead for the Carman Projects. Randy has implemented several similar restoration projects in the Truckee River and Carman watersheds.

e. Cooperation and Community Support

The SVRCD and the US Forest Service Tahoe National Forest have formed a strong cooperative relationship to implement these projects. There is wide support throughout the region for the project, as demonstrated by: attendance at field tours; attendance at presentations at RCD meetings; attendance at restoration work days for Carman Phase I; and special requests from groups to work on this project including scout troops and high school groups. The Sierra County Firesafe and Watershed Council has partnered with the Forest Service to complete site #3 and have committed to continue efforts to complete the other sites that are within Sierra County. The Feather River Coordinated Resource Management group has identified this area as a high priority for restoration and reduction of sediment to the Upper Feather River and is in support of these projects.

f. Long Term Management and Sustainability

These site improvement projects will occur on public lands managed by the US Forest Service under the 1990 Tahoe National Forest Land and Resource Management Plan (LRMP), as amended by the 2004 Sierra Nevada Forest Plan Amendment (SNFPA) FSEIS Record of Decision (ROD), and HFQLG ROD Tahoe National Forest Land Management Plan. These plans direct long-term management of public lands on the Tahoe NF in perpetuity. The US Forest Service has managed many similar areas to protect resource values in the past.

Past experience with this type of restoration has shown that while it is important to have provisions for long-term maintenance, significant maintenance is often not needed because natural hydrologic and geomorphic processes are restored. The US Forest Service will be responsible for long-term maintenance of the Project. Funding for long term management will come from the US Forest Service Tahoe National Forest.

g. Performance Measures

The following Performance Measures (PM) will be used to track progress towards project goals and desired outcomes.

1. Number of People Reached- Will track the number of people directly reached through sign in sheets at public meetings.

2. Dollar value of Resources leveraged for the Sierra Nevada
Will track any funding secured as a result of the SNC funds. Will likely use funds as match on other grants to complete work in the watershed.

3. Number and type of jobs created
This grant will immediately generate work for local contractors. Will report actual jobs created with SNC funds.

4. Number of New, Improved or Preserved Economic Activities
The Project would enhance grazing opportunities, recreation use and tourism in this part or the Sierra Nevada, and improve the quality of ecosystem services provided by public lands including watershed functions and products (e.g. clean water).

6. Lineal Feet of stream bank protected or restored.
Approximately 1.1 miles of stream will be restored by these projects. Will report actual distance completed.

12. Acres of land improved or restored.
Approximately 30 acres of meadow and streams and 120 acres of forest habitat will be enhanced and/or restored.

Supplemental and Supporting documents

a. Detailed Budget - Budget sheet attached – summary shown below.

Table 1. SNC Project Costs for Carman Creek Watershed Restoration Phase II.

PROJECT BUDGET CATEGORIES	TOTAL SNC FUNDING
Direct Costs	$ 293,650
Indirect Costs	$ 10,698
Administrative Costs	$ 45,652
SNC GRANT TOTAL	**$ 350,000**

b. Restrictions, Technical Documents, and Agreements

Regulatory Requirements/Permits (401 & 404) – Applications have been submitted and will be in place for implementation.
CEQA – These projects are exempt under CEQA. Notice of exemption attached.
NEPA – Decision Notices attached

c. Cooperation and Community Support

The following entities have provided letters of support (letters attached):

- California Regional Water Quality Control Board (Central Valley Region)
- Feather River Coordinated Management Group
- Natural Resource Conservation Service – American Indian Liaison
- Natural Resource Conservation Service – District Conservationist, Plumas/Sierra Counties
- Feather River Resource Conservation District
- US Forest Service

d. Long-term Management and Sustainability

Long term management plan:
This site improvement project will occur on public lands managed by the US Forest Service under the 1990 Tahoe National Forest Land and Resource Management Plan (LRMP), as amended by the 2004 Sierra Nevada Forest Plan Amendment (SNFPA) FSEIS Record of Decision (ROD), and HFQLG ROD Tahoe National Forest Land Management Plan. These plans direct long-term management of public lands on the Tahoe NF in perpetuity. The US Forest Service will monitor the projects for stability and function for 10 years. The US Forest Service will perform long-term management of the Carman Creek watershed. The US Forest Service has managed many similar areas to protect resource values in the past. All land management activities, including these projects, are subject to specific Best Mangement Practices (BMPs) & Management Requirements/Mitigations detailed in the Tahoe NF LRMP as well as additional resource protection measures. In addition, all projects must implement all requirements of the Central Valley Water Quality Control Board (CVWQCB) and be permitted through the CVWQCB, as well as the Army Corps of Engineers, as required.

This project is designed to return natural hydrologic function to the Carman Creek watershed. Conditions in the watersheds will continue to degrade if no action is taken. At each site, environmental sustainability will improve by increasing floodplain access, reducing active channel erosion, enhancing meadow and riparian vegetation, and increasing late season base stream flows. The proposed construction plan utilizes on-site materials for gully obliteration native rock and local quarry rock will be used for grade control structures. Only native species will be used for re-vegetation.

Past experience with this type of restoration has shown that while it is important to have provisions for long-term maintenance, significant maintenance is often not needed because natural hydrologic and geomorphic processes are restored. The US Forest Service will be responsible for long-term maintenance of these projects.

e. Maps and Photos

- Project Location map - Attached
- Parcel Map – NA – All projects are on Forest Service Lands
- Site Maps - Attached
- Photos of Project sites - Attached

f. Conservation Easement Requirements - N/A
g. Land Tenure – NA – National Forest Lands
Site Plans – Site plans for sites 4,5 & 7 are attached.
Leases or Agreements – N/A An operational agreement between the Sierra Valley RCD and the US Forest Service will be drafted and signed once funding is in place.

Appendix B3

SIERRA NEVADA CONSERVANCY
PROPOSITION 84 - DETAILED BUDGET FORM

Project Name: Carman Creek Watershed Forest Ecosystem Health Improvement Project

Applicant: Sierra Valley Resource Conservation District

SECTION ONE DIRECT COSTS	**Year One**	**Year Two**	**Year Three**	**Year Four**	**Year Five**	**Total**
Project Management Costs	$3,000.00	$7,200.00	$11,000.00			$21,200.00
Site Restoration Work Costs	$0.00	$118,000.00	$133,000.00			$251,000.00
Project Equipment, Building, Land purcha	$0.00	$0.00	$0.00			$0.00
Project Materials - rock, fill	$0.00	$10,000.00	$10,000.00			$20,000.00
Travel - SVRCD	$450.00	$500.00	$500.00			$1,450.00
						$0.00
DIRECT COSTS SUBTOTAL:	$3,450.00	$135,700.00	$154,500.00	$0.00	$0.00	$293,650.00

SECTION TWO INDIRECT COSTS	**Year One**	**Year Two**	**Year Three**	**Year Four**	**Year Five**	**Total**
Monitoring	$3,000.00	$3,000.00	$2,000.00			$8,000.00
Project materials & supplies purchased	$0.00	$0.00	$0.00			$0.00
Publications, Printing, Public Relations	$0.00	$1,000.00	$1,000.00			$2,000.00
Public Notices, Advertising	$98.00	$300.00	$300.00			$698.00
INDIRECT COSTS SUBTOTAL:	$3,098.00	$4,300.00	$3,300.00	$0.00	$0.00	$10,698.00
PROJECT TOTAL:	$6,548.00	$140,000.00	$157,800.00	$0.00	$0.00	$304,348.00

SECTION THREE Administrative Costs (Costs may n*ot to exceed 15% of total Project Cost*) :						**Total**
SVRCD operating/overhead costs	$982.00	$21,000.00	$23,670.00			$45,652.00
						$0.00
ADMINISTRATIVE TOTAL:	$982.00	$21,000.00	$23,670.00	$0.00	$0.00	$45,652.00
SNC TOTAL GRANT REQUEST:	$7,530.00	$161,000.00	$181,470.00	$0.00	$0.00	$350,000.00

SECTION FOUR OTHER PROJECT CONTRIBUTIONS	**Year One**	**Year Two**	**Year Three**	**Year Four**	**Year Five**	**Total**
Sierra Valley RCD	$1,500.00	$3,000.00	$3,000.00			$7,500.00
US Forest Service - In kind salaries	$4,000.00	$4,000.00	$4,000.00			$12,000.00
Sierrra County Firesafe & Watershed Council & USFS - RAC Grant Site 3	$20,100.00					$20,100.00
						$0.00
USFS Environmental Assessment						$0.00
USFS Permit Acquisition (401-404)						$0.00
Total Other Contributions:	$25,600.00	$7,000.00	$7,000.00	$0.00	$0.00	$39,600.00

NOTE: The categories listed on this form are examples and may or may not be an expense related to the project. Rows may be added or deleted on the form as needed. Applicants should contact the SNC if questions arise.

* Operating Costs should be allocated to the pecentage that is applicable to the grant based on your cost allocation methodology and cannot exceed 15% of your total project costs.

Notice of Exemption

Appendix E

To: Office of Planning and Research
P.O. Box 3044, Room 113
Sacramento, CA 95812-3044

County Clerk
County of: Plumas
520 Main St. Room 104
Quincy CA, 95971

From: (Public Agency): Sierra Valley RCD
PO Box 50
Vinton CA 96135
(Address)

Project Title: Carman Creek Watershed Forest Ecosystem Health Project

Project Applicant: Sierra Valley Resource Conservation District

Project Location - Specific: Northern portion of Sierraville Ranger District, app. 2 miles north of the town of Calpine, CA.
Section: 2 Township: T21N Range: R13E
Section: 26, 35, 36 Township: T22N Range: R13E

Project Location - City: Near Calpine CA **Project Location - County:** Plumas

Description of Nature, Purpose and Beneficiaries of Project:

Fuels reduction and thinning by hand on 120 acres of National Forest Land to reduce heavy fuels loads and improve forest health and wildlife habitat. This project is part of a defensible fuel profile zone (DFPZ) and is designed to reduce intensity and spread of a wildfire.

Name of Public Agency Approving Project: Sierra Valley Conservation District (SVRCD)

Name of Person or Agency Carrying Out Project: SVRCD in partnership with the U.S. Forest Service

Exempt Status: (check one):

- ☐ Ministerial (Sec. 21080(b)(1); 15268);
- ☐ Declared Emergency (Sec. 21080(b)(3); 15269(a));
- ☐ Emergency Project (Sec. 21080(b)(4); 15269(b)(c));
- ☑ Categorical Exemption. State type and section number: Minor Alteration to Land - #15304
- ☐ Statutory Exemptions. State code number:

Reasons why project is exempt:
The project is exempt as a minor alteration to public land with no ground disturbance (hand thinning). This project was analyzed under NEPA by the USFS as part of the larger Sadle Project and finding of no significant effect to the environment was made. There will be no effects to T&E species or to archeological resources. BMPs are included to protect water quality.

Lead Agency Contact Person: John Olofson **Area Code/Telephone/Extension:** 530-394-7076

If filed by applicant:
1. Attach certified document of exemption finding, OR
2. Has a Notice of Exemption been filed by the public agency approving the project? ☑ Yes ☐ No

Signature: _____ **Date:** 1-12-2012 **Title:** DIRECTOR

☑ Signed by Lead Agency ☑ Signed by Applicant

Authority cited: Sections 21083 and 21110, Public Resources Code.
Reference: Sections 21108, 21152, and 21152.1, Public Resources Code.

Date Received for filing at OPR:

FILED
JAN 12 2012
KATHLEEN WILLIAMS, COUNTY CLERK-RECORDER
PLUMAS CO. DEPUTY
BY

1/12/12
Date Filed

Kathleen Williams, County Clerk/Deputy

Certificate of Posting
I hereby certify that from 1/12/12 to 2/12/12 (30 days) I posted a copy of this Notice of Exemption in the Office of the Plumas County Clerk.

By _____ Date 1/12/12
Kathleen Williams, County Clerk/Deputy

California Regional Water Quality Control Board
Central Valley Region
Katherine Hart, Chair

415 Knollcrest Drive, Suite 100, Redding, California 96002
(530) 224-4845 • FAX (530) 224-4857
http://www.waterboards.ca.gov/centralvalley

Matthew Rodriquez
Secretary for
Environmental Protection

Edmund G. Brown Jr.
Governor

California Environmental Quality Act
Notice of Exemption for
Clean Water Act §401 Water Quality Certification

To: Office of Planning and Research
1400 Tenth Street, Room 121
Sacramento, CA 95814

From: CA Regional Water Quality Control Board
Central Valley Region, Redding Office
415 Knollcrest Drive, Suite 100
Redding, CA 96002

Date: 9 January 2012

Project Title: Carman II Watershed Restoration Project

Project Location - Specific: Northern portion of Sierraville Ranger District, approximately 2 miles north of the town of Calpine, CA.

Section: 2	Township: T21N	Range: R13E
Section: 26, 35, 36	Township: T22N	Range: R13E

Latitude:	120 deg, 27 min, W
Longitude:	39 deg, 42 min, N

Project Location - County: Sierra and Plumas Counties

Project Description: The Carman Creek Watershed is currently listed as a severely deteriorated watershed in the Tahoe National Forest Land and Resource Management Plan (LMP). Degradation is characterized as follows: the main channel is deeply downcut and actively eroding in many places throughout the watershed; many tributaries are downcutting in response to erosion in the main channels; most valley bottom meadow systems are at risk of loss due to erosion; and many meadows have low water tables due to stream downcutting.

The purpose of this project is to improve the existing watershed conditions in the Carman Creek Watershed as follows:

- Reduce or stop current active meadow and stream erosion, e.g. downcutting, headcutting,
- Restore and improve fish and wildlife habitat,
- Reestablish the floodplain function and restore the water table in these meadows,
- Improve meadow vegetative conditions and establish a trend towards sustainable, diverse, and healthy plant communities where this condition does not exist,

- Increase the quality of aquatic habitat for aquatic and terrestrial species and improve the overall health of riparian ecosystems within the Carman Creek Watershed,
- Increase the potential for ground water storage both long-term and short-term, and retain the water in the seasonal water table for longer periods of time,
- Re-establish the function of the floodplain, i.e. to filter out sediment as water flows through meadow systems to prevent sediment movement downstream into the Feather River. This will increase flood flow attenuation capacity, and
- Increase forage for both wildlife and livestock.

This project would implement watershed restoration activities at five sites (sites 3-7 in the EA) within the West Fork of Carman Creek Watershed. The activities at each site are:

West Fork of Carman Creek Subwatershed

Site #3 is located along the West Fork of Carman Creek to the west of Three Cornered Meadow. The area contains two railroad (RR) grades or old roads. The stream was diverted and has downcut. Further degradation of the stream can be prevented by removing small sections of railroad grade and returning the flow to the original channel.

Site #4 is located along the West Fork of Carman Creek between Three Cornered Meadow and Carman Valley. This area has been disturbed by old railroad grade construction and actively erodes during large storms.

The proposed action would remove section of RR grade that are diverting the natural stream flow, relocate the flow into remnant channels on the old meadow surface and obliterate the eroded channel using the plug and pond technique. Approximately 3,000 feet of existing degraded channel and 1,000 feet of RR grade would be obliterated.

Site #5 is located in the valley bottom meadow along an intermittent tributary to the West Fork of Carman Creek where an old railroad grade has captured the natural flow for a few hundred feet resulting in some downcutting and meadow dewatering.

The proposed action would obliterate the railroad grade and associated flow ditch and return the flow to the meadow channel system.

Site #6 is located along an intermittent tributary to the West Fork of Carman Creek where an old railroad grade created a through cut in a hillside and captured the stream causing erosion of the area.

The proposed action would reconnect the flow into the original channel and obliterate the through cut area (approximately 500 feet long).

Site #7 is located in the upper end of Carman Valley located on both side of Road 71. Railroad grade construction and subsequent culvert placement has caused a stream segment to downcut and widen through the meadow area below the road.

The proposed action would remove the existing culvert, create a rocked low water crossing, and divert the stream (upper portion of the West Fork of Carman Creek) out of the gully and into remnant channels on the meadow surface. The 2,000 downcut channel section would be closed off using plug and pond technique. Total disturbed area for the 5 sites will be approximately 4.4 acres.

Names of Public Agencies Approving Project: *Federal Agencies:* The Project requires authorization under U.S. Army Corps of Engineers Clean Water Act Section §404, Nationwide Permit #27.

State Agency approval for Clean Water Act Section §401 Water Quality Certification. Regional Water Quality Control Board, Central Valley Region, Redding Branch Office.

Name of Person or Agency Carrying Out Project: Mr. Randy Westmoreland, US Forest Service

Exempt Status: Categorical Exemption §15333 (restoration projects under 5 acres):

Federal Lead Agency Contact Person:
Matt Kelly, Army Corps of Engineers

Area Code/Telephone/Extension
(530) 223-9537

State Lead Agency Contact Person:
Ben Letton, P.G.
Engineering Geologist
Central Valley Regional Water Quality Control Board

Area Code/Telephone/Extension
(530) 224-4129

Signature: _____ ***Date:*** 1/9/2012

Title: Ben Letton, P.G.
Engineering Geologist
401 Water Quality Certification Unit

BL:hlg

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DECISION NOTICE
And
FINDING OF NO SIGNIFICANT IMPACT
For
Saddle Project

USDA Forest Service, Tahoe National Forest
Sierraville Ranger Forest
Sierra County, California

DECISION AND REASONS FOR THE DECISION

Introduction

The Saddle Project is part of the pilot project to implement the Herger-Feinstein Quincy Library Group Forest Recovery Act of October 21, 1998 (HFQLG). The underlying need for the pilot project is to fulfill the Secretary of Agriculture's statutory duty under the HFQLG Act, to the extent consistent with applicable Federal law. That duty is to test and demonstrate the effectiveness of certain resource management activities designed to meet ecologic, economic, and fuel reduction objectives on the Lassen and Plumas National Forests, and Sierraville District of the Tahoe National Forest. The Act requires the Secretary to conduct a pilot project for a period of up to 5 years (extended through 2012). To accomplish the purpose of the Act, resource management activities are required, including construction of a strategic system of Defensible Fuel Profile Zones (DFPZs), group selection harvest, individual tree selection harvest, riparian management and watershed restoration projects. The Act directs the Forest Service to construct 40,000 to 60,000 acres of DFPZs each year. The Saddle Project is located in Sierra County, California north and west of Calpine and north of Yuba Pass.

I have read the Saddle Project Environmental Assessment (EA), reviewed the analysis in the project file, including documents incorporated by reference (listed on page 87 of the EA), and fully understand the environmental effects disclosed therein. I have also considered the comments submitted during the public scoping for this project. The EA and supporting documents are available at the Sierraville Ranger District.

Decision

It is my decision to select Alternative 1, the Proposed Action, which is fully described in the EA on pages 7 through 19 and presented on Maps of the EA (*EA Appendix A*). My decision provides for implementation of up to 4,151 acres of vegetation (silvicultural) management prescriptions (including hand thinning, variable thinning, radial thinning, group selection meadow and aspen restoration and up to 534 acres of prescribed burn optional areas. These activities will require use of up to 8.1 miles of existing, tilled roads or roadbeds. All temporarily-used roads will be obliterated after project implementation. Most of the Saddle Project's treatments will be conducted near the community of Calpine, and will complement and complete fuels management needs in the Calpine Wildland Urban Interface (WUI).

Reasons for the Decision

I have selected Alternative 1 because it best meets the purpose and need for the Saddle Project, which in addition to implementing the HFQLG pilot project, includes the following:

- Creation of a safer, more effective fire suppression environment and connection of the existing shaded fuelbreaks in and around the Saddle Project Area.
- Improved forest ecosystem resiliency and health
- Restored forest heterogeneity
- Improved hydrologic connectivity and watershed conditions

Response to the Purpose and Need

EA Section 2.6 (pages 25-38) compares the action alternatives (Alternatives 1 and 3) and the no action alternative (Alternative 2). Alternative 1 provides the best response to the project needs and purpose by establishing an effective fire suppression environment and best completing the DFPZ with strategic links and effective treatments; by reducing tree density in unhealthy overstocked timber stands, and increasing stand resiliency to wildfires; by re-establishing heterogeneity with variable spacing, radial thinning and group selection, and by restoring and enhancing oak, meadow and aspen communities; and by improving hydrologic connectivity and watershed conditions with 9 site-specific watershed restoration actions in addition to the meadow enhancement treatments.

All treatment units will benefit from thinning and fuels hazard reduction. Many of the stands are currently in an unhealthy condition and have high existing ground fuels. It is highly likely that if no action is taken to reduce the stocking in these stands or reduce the fuel hazard, then drought assisted insect and disease mortality will increase, perhaps to a catastrophic level. In addition, as the tree density and fuel conditions continue to worsen, the potential for uncharacteristically high severity wildfire will increase.

- Alternative 1 will expand the current network of DFPZs, using roads, ridgelines and other strategic land features to improve the ability of firefighters to limit the extent of wildfires. Once these areas have been thinned and the ground fuels reduced, it will be much easier and safer to re-introduce low intensity prescribed fire into the ecosystem.
- Group selection harvest will contribute to stand diversity and community economic stability.
- Oak, meadow and aspen restoration and enhancement will restore these unique communities from conifer encroachment.
- Selectively thinning trees up to a 30-inch DBH limit will improve the cost efficiency of the project. Cost efficiency is an important objective of the HFQLG Act Pilot Project, and it was an important factor in the Sierra Nevada Forest Plan Amendment Record of Decision (SNFPA ROD 2004), which on page 9 states: "Modifications to some of the diameter size limits imposed by the SNFPA 2001 ROD will improve the cost-effectiveness of projects." Also on page 9 the 2004 ROD states: "The emphasis in the SNFPA 2001 ROD to focus on removing small fuels, outside the threat and defense zones, effectively precludes most commercial options for removing fuels. The potential supply of raw material for biomass far exceeds regional market demand and is costly to get to market. We're losing the capacity to remove larger diameter fuels." Page 4 of the 2004 ROD states: "This decision also

addresses the need to retain industry infrastructure by allowing more wood by-products to be generated from fuels treatments and dead and dying trees to be harvested during salvage operations. It acknowledges that the Forest Service has a role to play in providing a wood supply for local manufacturers and sustaining a part of the employment base in rural communities. In some cases, these wood by-products will also help to offset the cost of fuels treatments."

- The design elements and standard management requirements included in Alternative 1 (EA Appendix B) will maintain large trees, snags and large woody debris, protect riparian and other unique habitats, protect soils and water quality, provide for the long-term development and sustainability old forest habitat, and minimize disturbance to wildlife.

ALTERNATIVES CONSIDERED

Alternative 1: Proposed Action.

Alternative 2: No Action. Under this alternative, the Proposed Action would not be implemented in this area at this time.

Alternative 3: Non-Commercial Funding Alternative. An action alternative with a 11" dbh limit for vegetation prescriptions, with associated post-treatment prescribed underburning, and fuels and biomass removal was been designed to comply with the Non-commercial Funding Alternative requirement, which is required by Judge England's November 3, 2009 court order remedy for Case 2:05-cv-00205-MCE-GGH, Sierra Forest Legacy et al., Plaintiffs, versus Mark Rey in his official capacity as Under Secretary of the Agriculture, and People of the State of California vs. United States Department of Agriculture. This alternative's sole purpose is to achieve the fuels reduction element of the purpose and need, with all treatments being solely directed at reducing hazardous fuels.

Alternative 4: An additional alternative considered but eliminated from detailed study is summarized in the EA on page 25, and is examined in EA Appendix F. Alternative 4 proposes tree removal diameter limits by land allocations similar to those under the 2001 Sierra Nevada Forest Plan Amendment Record of Decision (2001 SNFPA ROD as follows: 12"dbh in the Old Forest Emphasis (OFE) land allocation, 20"dbh in the WUI Threat Zone and in the General Forest allocation, and 24" dbh in the WUI Defense Zone. It limits the application of Group Selection treatments throughout the allocations and restricts the size to 1 acre. The IDT determined that Alternative 4: 1) was duplicated within the existing range of alternatives regarding several elements and 2) failed to adequately meet the purpose and need of the Saddle Project for other elements. Please refer to EA Appendix F and its attachments for a detailed discussion of Alternative 4.

PUBLIC INVOLVEMENT

The National Policy Act (NEPA) and the Healthy Forests Restoration Act (HFRA, Sections 104(e) and 104(f)) guided the public scoping and collaboration processes for this proposal. The Omnibus Spending Bill for FY 2008 amended the Herger-Feinstein Quincy Library Group Forest Recovery (HFQLG) Act to require application of Sections 104 through 106 of the HFRA to projects authorized under the HFQLG Act. The proposal for this project was developed through public meetings and interdisciplinary input. The Sierraville Ranger District of the Tahoe Forest Service hosted a public collaboration meeting for this project on December 10, 2009 at the

Sierraville Ranger District. It was advertised in the *Sierra Booster* and *Mountain Messenger*, and invitations were mailed to 20 potentially interested community members and landowners adjacent to the Saddle Project area. Three interested individuals attended the collaboration meeting. Attendees asked questions about the project, and were asked to provide written comments regarding concerns and clarifications. This written and verbal feedback was used to refine the Saddle Proposed Action.

A public notice announcing a 30-day Scoping Period for the Saddle Project Proposed Action was published in the *Mountain Messenger* on February 4, 2010 and in the *Sierra Booster*. On February 4, 2010, information about the Proposed Action was mailed to 36 potentially interested citizens and landowners adjacent to the Saddle Project. The project has been published in the Tahoe National Forest's quarterly Schedule of Proposed Actions (SOPA) starting in October 2009.

Scoping comments on the proposed project were received from 7 individuals or groups. The comments in response to this scoping were used to develop the issues and alternatives included in the Environmental Assessment. Documentation of the scoping comments received with responses from the Forest Service is located in the EA Appendix G: Saddle Project Response to Public Scoping Comments. Once the EA was completed, the 30-day Objection Period was initiated on November 24, 2011 with a Public Notice in *The Union.* The EA and Appendices were mailed or e-mailed to 10 individuals or organizations that responded during scoping, and were eligible to file an Objection during the Saddle Project Objection Period. No Objections were filed during the Objection Period.

EFFECTS RELATIVE TO FINDING OF NO SIGNIFICANT IMPACT (FONSI) SIGNIFICANCE ELEMENTS

In 1978, the Council on Environmental Quality promulgated regulations for implementing the National Environmental Policy Act (NEPA). These regulations (40 CFR Parts 1500-1508) include a definition of "significantly" as used in NEPA. The eleven elements of this definition are critical to reducing paperwork through use of a finding of no significant impact (FONSI) when an action will not have a significant effect on the human environment, and is therefore exempt from requirements to prepare an environmental impact statement. Significantly as used in NEPA requires considerations of both Context and ten elements of Intensity.

(a) Context:

Significance of an action must be analyzed in several contexts such as society as a whole (human, national), the affected region, affected interests, and the locality. Significance varies with setting. In the case of a site-specific action, significance will usually depend upon the effects in the locale rather than in the world as a whole. Both short- and long-term effects are relevant.

The local context of the Proposed Action is limited to the eastern portion of the Tahoe National Forest in the northern portion near the community of Calpine and Highways 89 and 49 of the Sierraville Ranger District in locations described in Chapter 1 of the EA. The Proposed Action will implement up to 4,151 acres of vegetation (silvicultural) management prescriptions, and up to 534 acres of prescribed burn optional areas. It will improve site-specific watershed conditions.

The Proposed Action will temporarily use up to 8.1 miles of existing, tilled roads or roadbeds. All temporarily-used roads will be obliterated after project implementation. Hand thinning treatments around the Calpine Lookout will improve public safety and fire suppression effectiveness. Most of the treatments will occur near the community of Calpine, and will complement and complete fuels management needs in the Calpine Wildland Urban Interface (WUI).

In the context of seasonality and duration of activities, analysis prepared in support of the EA (*Wildlife Biological Evaluation, Aquatic Resources Biological Evaluation, Sensitive Plant Biological Evaluation, Management Indicator Species Report, Forest Vegetation Report, Fire and Fuels Report, Weed Risk Assessment, Cumulative Watershed Effects Assessment*, and *Air Quality Report*, all hereby incorporated by reference and available upon request), indicate that Alternative 1 will pose significant direct, indirect or cumulative effects.

As explained in Chapter 1 of the EA, this Project is part of the larger Herger-Feinstein Quincy Library Group Forest Recovery Act Pilot Project. The law that authorizes this pilot project was passed by Congress and signed into law by the President in October of 1998. The Act limits total acreage affected by resource management activities to approximately 70,000 acres annually. The proposed 4,685 maximum acres of treatments for the Saddle Project will constitute a very small portion of the total annual acreage of management activities under HFQLG. For that reason, the scale of the this project is not indicative of significant effects, even when considered in terms of local effects within the Pilot Project area, and even when considered in terms of only one year's program of activities under the Pilot Project.

(b) Intensity:

Intensity refers to the severity of impact. The following are considered in evaluating intensity, as detailed in the remainder of this section.

(1) Beneficial and Adverse Impacts

(2) Degree to which the Alternatives Affects Public Health and Safety

(3) Unique Characteristics of the Geographic Area

(4) Degree to which Effects on the Human Environment are Likely to be Highly Controversial

(5) Degree to which the Possible Effects on the Human Environment are Highly Uncertain or Involve Unique or Unknown Risks

(6) Degree to which the Action May Establish a Precedent for Future Actions with Significant Effects or Represents a Decision in Principle about a Future Consideration

(7) Whether the Action is Related to Other Actions with Individually Insignificant but Cumulatively Significant Impacts

(8) Degree to which the Action May Adversely Affect Properties Listed in or Eligible for the National Register of Historic Places, or May Cause Loss of Significant Scientific, Cultural or Historic Resources

(9) Degree to which the action may Adversely Affect an Endangered or Threatened Species or its Habitat as Determined to be Critical under the Endangered Species Act of 1973

(10) Whether the Action Threatens a Violation of Federal, State, or Local Law or Requirements Imposed for the Protection of the Environment

(1) Beneficial and Adverse Impacts

This project is designed to improve existing conditions. The project design features developed for the Proposed Action including Land and Resource Management Plan (LRMP) standards and guidelines, Best Management Practices (BMPs), and project-specific resource protection measures and Standard Management Requirements (SMRs) will minimize or avoid adverse impacts. The rationale for effects determinations are detailed in the supporting analyses for the Saddle Project EA and are summarized in the remaining sections of this document. All analyses prepared in support of the EA and this document considered both beneficial and adverse effects, but all effects determinations were made on the basis of only adverse effects.

Hazardous Materials

During operations for Alternative 1, equipment may have the potential to release hazardous substances, such as oil and diesel, or may contaminate exposed soil. Borax, a natural substance, will be used as a fungicide on cut conifer stumps. Precautionary mitigation measures such as the BMPs, Contract Clause C6.341 – Prevention of Oil Spills, SMRs 1, 2 and 17 in EA *Appendix B* will decrease and mitigate risk of spill, and Best Management Practices for the use of pesticides will be strictly adhered to, including spill contingency planning, following label requirements, and use of personal protection equipment during application. Magnesium chloride may be used as a dust palliative on the NFS 05 road within the project area. The use of dust palliatives will follow EA *Appendix B* SMR 15 and contract Clause C5.31# - Road Maintenance T-Specifications. More details are available in the Saddle Transportation Management Plan Report (incorporated by reference and available upon request). Based on decades of implementation of similar projects and mitigation measures throughout the Sierraville Ranger District, the risk of releasing hazardous materials is very low.

Sensitive plants: Effects of the Application of Borax

Although large amounts of borax (including Sporax) can be toxic to plants and microorganisms, boron (the main break-down product of borax) is a naturally occurring element that plants need. The Saddle Project Biological Evaluation for Sensitive Plants found that although application of Sporax in the Saddle Project Area may affect individuals, it is unlikely to lead to a trend toward federal listing or loss of viability for sensitive plant species. Although highly unlikely, it is possible that Sporax may be spilled on or in close proximity to sensitive plant occurrences of *Ivesia sericoleuca* or *Pyrrocoma lucida*. This possibility will be mitigated by the protection of sensitive plant occurrences of the designated flag and avoid control areas (See SMR 17 in EA Appendix B).

Because Sporax is a fungicide, it has the potential to affect the sensitive fungi species. None of the fungi on the Tahoe sensitive list have been found to occur within the Saddle Project Area, although surveys for fungi are not a suitable method to eliminate their presence. It is expected that mitigations to limit the spreading or spilling of Sporax, such as not using Sporax within 25 feet of surface water, not applying it during sustained rain and applying only to stumps within four hours of felling will be sufficient to reduce potential effects to a low level.

Cultural and Heritage Resources

FONSI elements #3 and #8 summarize findings regarding cultural and heritage resources. There will be no significant adverse effects expected from Alternative 1.

Fuels Management

As detailed in the Saddle Project Fire and Fuels report and summarized in EA Chapter 2, under Alternative1, extreme fire behavior will decrease and suppression effectiveness will increase (due to lowered fire intensity and disruption of fuel continuity), which will benefit natural resources and human safety. Follow-up fuels treatments include prescribed underburing, pile and burn, removal, or mastication. Mastication, however, does not remove hazardous fuels, but instead reconfigures these fuels on site, as described in the Saddle Project Fuels Management Report. Busse et al. (2010) report that mastication treatment has a higher potential for damage to the residual stand during a fire (compared to material removal) depending on variables including soil moisture and the depth, and the arrangement and moisture content of the mastication residues. Studies indicate that fire burns more slowly through accumulations of masticated woody material; allowing heat to build to levels that are lethal to trees and other vegetation, particularly when soils are dry (Busse et al., 2010). The same authors found that masticated fuel depths of 7.5 cm or greater had the ability to produce temperatures above the lethal threshold for plants. The potentially longer fire residence time and duration of extended heat in masticated units can also adversely affect soil properties, e.g. infiltration and fertility, which in turn can adversely affect forest vegetation establishment and growth. Due to the potential for damage from fire, mastication will only be implemented where predicted residue depth will be below 6". Mastication generally results in fuel beds that have lower flame lengths and rates of spread than un-masticated fuels. However, increased residence time and fireline intensity resulting in negative effects to the residual stand could negate some of the benefits to fire suppression operations such as lowered rates of spread and flame lengths (Reiner and Decker 2009).

There also remains the potential for short-term increased rates of spread (ROS) due to increased eye-level wind and fuel under Alternative 1. In areas where thinning and piling has occurred, but prior to the burning of the piles, there may be some short-term effects related to this increased ROS. While the crown density will have been reduced to the desired level, (which reduces the fuel continuity and availability at the crown level), prior to burning piles, there will be increased fuel volume at the surface level.

Air Quality

The Saddle Project Air Quality Effects Report (incorporated by reference and available upon request) analyzed potential effects to air quality. Air emissions of concern in the Saddle Project area are inhalable particulate matter (PM10) and ozone (modeled as NOx), as detailed in the Saddle Project Air Quality Effects Report. Ozone production varies significantly with changing atmospheric conditions and models are not available to predict ozone formation resulting from project emissions. Instead, emissions of the ozone precursor Nitrogen Oxides (NOx) are modeled to predict the effects of Alternative 1. Fugitive dust from road use, and emissions from vehicles related to project implementation are also possible.

Prescribed burning emissions: Burning of mechanical and hand piles and prescribed underburning each contribute to air emissions. As shown in Table 1 below, Alternative 1 will produce 55.25 tons of PM10 and 12.33 tons of NOx per year. On a short-term basis (1 to 3 days)

for a few periods each year, these prescribed fire emissions have the potential to reduce air quality. The potential for these short-term reductions in air quality are mitigated by the air quality protection measures included in Alternative 1, including the coordination with the California Air Resources Board (CARB) and Northern Sierra Air Quality Management District (NSAQMD), as discussed in detail in the Air Quality Effects Report. Alternative 1 will follow the Smoke Management Guidelines for Agricultural and Prescribed Burning contained in Title 17 of the California Code of Regulations.

Table 1. Saddle Project prescribed burning air emissions per year over 10 years

Emission	Treatment	Hand thin burn piles	Hand thin, masticate, grapple pile burn piles	Mechanical treatment burnt in pile at landing	Treatment receiving post-treatment RX burn	RX burn optional	Total treatment emissions per year
PM10 (tons)	Alt. 1	1.98	0.11	0.22	43.60	9.35	55.25
NOx (tons)	Alt. 1	0.77	0.04	0.08	9.42	2.02	12.33

These emissions are not expected to exceed Plumas or Sierra County's maximum emission standard of 25 tons per year for ozone. Smoke from burning in the Saddle Project area near Calpine could potentially temporarily affect the Calpine community area, potentially affecting visibility, safety, and/or human health. As wind generally trends from the southwest in the Sierraville District, there is a potential for some smoke to drift north or east and affect the communities of Portola and Loyalton, and homes in the Sierra Valley. As these are more than 5 miles away, the smoke is likely to be dispersed. Mitigation of smoke impacts will consist of elements discussed in the Air Quality Effects Report, including burning under favorable atmospheric conditions; limiting acres burned daily; allowing piles to dry before ignition; and ceasing ignition if smoke dispersion conditions degrade. Monitoring of smoke transport is required by NSAQMD in the smoke management plan. Daily coordination with NSAQMD and review of a daily spot weather forecast from the Redding Fire Weather office is required prior to igniting any prescribed fire.

Fugitive dust: Fugitive dust could be caused by the development of temporarily-used roads, skidding of logs, and biomass material, hauling operations on native or aggregate surfaced roads, and road maintenance and repair activities. Dust abatement techniques will be applied as necessary to all these activities to minimize unsafe conditions and meet air quality requirements. The primary techniques used for dust abatement are:

• The application of water during operations

• Occasional application of dust palliatives, such as magnesium or calcium chloride, to roads to reduce dust as necessary

Because of the large size of the Saddle Project area, the small amount and dispersed nature of dust producing activities, and the favorable weather conditions within the normal operating season, in combination with the dust abatement techniques used, any adverse effects from dust are expected to be minimal.

Soils

The National Forest Management Act (NFMA 1976) requires that forest management practices do not permanently impair the productivity of the land. The Tahoe National Forest LRMP (USDA, 1990) provides direction for maintaining long-term soil productivity through standards and guidelines for three soil characteristics: soil porosity (measured through compaction), soil cover, and soil organic matter (LRMP, pages V-36 through V-38). The potential effects to these parameters are analyzed by the Saddle Project Soils Resource Effects Analysis Report (incorporated by reference and available upon request), and detailed information regarding the Saddle Project treatment area soils are included in the Saddle Project Record. The potential effects of Alternative 1 to soil resources are discussed below.

Soil cover: Under Alternative 1, small pockets of reduced cover could result from group selection and oak restoration treatments due to decreased needle cast. Thinning will slightly decrease soil cover. Landings and skid trails under Alternative 1 will decrease ground cover. Mastication treatments could increase soil cover, while grapple pile treatments could disturb and remove the top layers of soil. Piling is conducted to reduce the amount of slash and coarse fuels, and monitoring has shown that the overall extent where reduced cover is observed does not exceed the LRMP standards due to post-treatment scattering and incorporation of unburned fuels. Soil cover will be reduced in small areas where concentrated pile burning or where heavy concentrations of fuels burn for extended time periods. Ground cover post-treatment is subject to SMR 19, which requires mulching to various ranges depending on proximity to water sources and site slope and conditions. With site-specific prescribed burn plans, SMR 19, and Best Management Practices, prescribed burn activity areas typically meet effective soils cover requirements. Soil cover will be reduced on access routes, and watershed restoration construction areas for a temporary period.

Organic matter: Alternative 1 will remove large woody material and finer organic material to various degrees. Mechanical and manual thinning with associated piling will reduce surface duff as well as larger material. Mastication could increase surface organic material, while grapple piling will likely decrease existing and activity surface fuels. The extent and volume of large removed woody material will be guided by EA Appendix B SMR 19: *Provide for downed wood retention of 3 large wood pieces (10' length and 20"dbh, where unavailable 12" dbh will suffice) per acre. In areas not meeting downed wood requirements, incorporate burn prescription measures and contract requirements to maintain existing downed logs (preference to spring burn prescription).*

Prescribed burning will likely remove some material in higher decay classes. Given fuels reduction objectives for the area, this is considered acceptable for soil resource concerns within WUI and DFPZ acres.

Because the objective of group selection and oak restoration under Alternative 1 is to reduce ground cover to promote regeneration of desired species, litter and duff will be displaced or removed in portions of those treated areas. The need to process more material in group selection areas will necessitate more landings and therefore more organic material will be displaced. The short-term use of temporary roads will also affect organic material by clearing it on approximately 8.1 miles of roads under Alternative 1. Similarly, skid trails and landings will be cleared of large and fine matter. Forest plan standards and guidelines for soil organic matter will be met in the areas receiving group selection and oak restoration treatments.

Soil porosity and compaction

Portions of activity areas with intensive equipment operations, such as landings and skid trails, are likely to increase in compaction (the measurement for porosity). Under Alternative 1, landings and skid trails will occur on up to 15 % of the 4,560 acres of activity areas. SMRs 1 and 4 will aid in ensuring soil porosity levels on an activity area basis meet Forest plan standards and guidelines by limiting access by soil moisture, type and slope, and requiring sub-soiling. Re-using existing landings and skid trails should allow reduction in compaction levels and porosity for some cases or maintain these activity areas at existing levels when subsoiling is completed.

Under Alternative 1, radial thin with group selection activity areas 6754024, 6854043 and 6804007 have a potential risk for exceeding soil porosity standards where existing conditions are already high relative to the standard. Reduction in compaction levels and porosity may be achieved through additional subsoiling in groups or where site conditions allow per SMRs 1 and 4. Alternative 1 will not substantially change existing compaction levels in activity areas that currently exceed the compaction standard and that are re-entered. However, improvements to porosity will occur on skid trails compacted but not previously subsoiled when these areas are subsoiled, or where group selections are placed over previously compacted soils and are subsoiled. For activity areas 6804062, 6804014, 6804010, and 6804040 some improvement in porosity may be achieved over the short-term through additional subsoiling in groups or where site conditions allow per SMR 4.

Alternative 1 will use 8.1 miles of temporary roads. Short term detrimental compaction could occur on temporary roads until decommissioned (estimated to persist for 5 years in a fully compacted state on the landscape.) Under Alternative 1, reduced soil porosity could occur in watershed restoration action areas for approximately one month until site access is subsoiled or otherwise restored to original condition.

Water Resources

The Cumulative Watershed Effects (CWE) Report presents the analysis of direct, indirect and cumulative effects on water resources in addition to effects on water quality as they relate to beneficial uses. A summary of cumulative effects is summarized in FONSI element #7 Cumulative Effects and effects to water quality as they relate to beneficial uses are summarized in FONSI element #10III. Tables 2 and 3 below summarize the findings of the CWE report regarding the direct and indirect effects of Alternative 1 to Water resources.

Table 2. Water Quality: Riparian Management Objectives 1,2 and 8)			
Actions	**Effects and Comparison Indicators** ▼		
Action category* ▼	**Sediment**	**Temperature (shade)**	**Nutrients**
Mechanical and Manual Vegetation and Fuels Reduction Treatments[1]	**Alt 1:** 4,437 unit acres in activity areas that could be potentially mechanically treated and 758 unit acres that could be manually treated. Vegetation and fuels treatments were designed to avoid and minimize impact to sensitive and erosive areas, and SMRs will prevent impacts from timber processing and removal activities (designated crossings, burn Restrictions, & timing restrictions) from contributing sediment (SMRs 1, 19, 21).	**Alt 1.** Removal of overstocked small diameter trees near channels in up to 1,704 acres of RHCAs** may cause localized, microclimatic temperature increases, but these will not be significant.	**Alt 1:** 3,025 ac. potentially underburned could change soil nutrient and organic matter dynamics through volatilization and availability, although planned low-intensity fire should minimize volatilization and begin to reflect conditions of the historical low-intensity fire regime. SMR 19 requires prescribed burning to retain specific ground cover (organic matter) amounts.
Vegetative Riparian Restoration[2]	**Alt 1:** Multiple restrictions including SMRs 3, 9 and 10 create exclusion areas, and timing removal restrictions will prevent sediment contribution.	**Alt 1:** With removal of conifers in 123 acres of meadows, localized, short-term temperature increases expected until riparian vegetation expands. This is not a significant effect.	**Alt 1:** Where soil moisture is increased along moist zones under meadow restoration treatments, there is a potential for greater nutrient update by biota in localized areas.
Transportation[3]	**Alt 1:** 8.1 miles of temporarily-used roads with risk for sediment production; 50 road mi. maintained. Rehabilitation, and seasonal and access restrictions minimize effects as required by SMR 15.Road decommissioning and drainage improvements prevent long-term sediment delivery.	**Alt 1:** Actions C, K and P will re-align road segments from drainages, potentially increasing vegetation and localized shading.	**Alt 1:** Where sediment transport is changed, nutrients associated with sediment transport could be changed (see Sediment indicator).
Watershed Restoration[4]	**Alt 1:** Short-term reduction in soil cover during action implementation increases risk for sediment runoff. SMR 20 minimizes this effect with timing restrictions. Long term benefits from restoration actions D, E, F and K to decrease in-stream erosion.	**Alt 1:** Plug and pond techniques with Actions A and N could improve width to depth ratios and decrease associated temperatures. Actions D, E, F, and K will improve shading with greater width to depth ratios.	**Alt 1:** Effects similar to those described under riparian restoration.

*For footnote information please see Table 3.3 below.

** Because no group selection units will be located in RHCAs, and radial thinning treatments will be restricted from many areas, the actual area treated in units with RHCAs will be no more than 1,345 acres (as displayed in EA Appendix D). Please see EA Appendix B SMR 11 for details about treatment restrictions. Furthermore, of the approximate 1,704 unit acres treated in RHCAs, approximately 234 of these acres will be treated with prescribed burn optional treatments. Prescribed burning in RHCAs is restricted by a suite of SMRs including SMR 19.

Table 3. Hydrologic and Riparian Function and Stability Riparian Management Objectives (2, 3, 4, 5, 6, 7, 8, and 9)			
Actions	**Effects and Comparison Indicators** ▼		
Action category* ▼	**Riparian vegetation health and habitat**	**In-stream flows, flood discharges, and water table maintenance**	**Channel stability and Large wood distribution**
Mechanical and Manual Vegetation and Fuels Reduction Treatments[1]	**Alt 1:** SMRs limit burning and piling from riparian vegetation (SMR 20), and equipment operations are subject to exclusion zones (SMR 9). Thinning in RHCAs will promote riparian vegetation to increase soil moisture and improve channel stability by increasing ground cover.	**Alt 1:** Up to approximately 1,704 acres of vegetation and fuels treatment are potentially in RHCAs. These treatments in RHCAs may prevent high severity wildfire along stream courses, decreasing the potential for channel instability after wildfire.	**Alt 1:** 1704 acs. of thinning in the RHCA will increase riparian vegetation, improving channel stability where water is held longer in the soil profile. Restrictions on crossings, exclusion areas, and requirements for woody debris retention will protect stability. Underburning will increase woody increase woody debris recruitment.
Vegetative Riparian Restoration[2]	Alt 1: Meadow and aspen restoration actions will increase the vigor and function of 125 acres of riparian habitat.	**Alt 1:** With conifer removal, more vigorous riparian vegetation growth with increased water retention in 125 acs. of meadows and 2 acs. Aspen restoration.	Meadow restoration and enhancement actions over 123 acs.., will increase riparian vegetation, improving channel stability where water is held longer in the soil profile.
Transportation[3]	**Alt 1:** Actions J, K, D, and H will improve existing crossings and road drainage, and one temporary road intermittent crossing, will all potentially short term affect riparian vegetation but will also beneficially restore riparian connectivity. Actions C and P will beneficially re-align roads away from riparian vegetation.	**Alt 1:** SMRs required for road maintenance and temporary use, and road improvement actions will improve water routing and ability of channels to handle flood flows (see SMR 19) and will reduce capture of water flow by roadbeds.	Actions C and P will realign the roadbed, allowing forest growth in riparian areas in currently roaded areas, and facilitating the replacement of large wood in the riparian area.
Watershed Restoration[4]	**Alt 1:** Actions A, D, and E, K and N will restore meadow and stream hydrology and function, improving riparian vegetation.	**Alt 1:** Improvements to flood discharges and water table maintenance due to increased residence time of ground water and increased late season stream flow from restoration actions.	**Alt 1:** Actions A and N will restore meadow and stream function over more than 100 acres with plug and pond, and riffle and grade control methods by supporting channel configuration or reconstructing the floodplain.

*The footnotes below list which Actions fit in each action category.
** Because no group selection units will be located in RHCAs, and radial thinning treatments will be restricted from many areas, the actual area treated in units with RHCAs will be no more than 1,345 acres (as displayed in EA Appendix D). Please see EA Appendix B SMR 11 for details about treatment restrictions. Furthermore, of the approximate 1,704 unit acres treated in RHCAs, approximately 234 of these acres will be treated with prescribed burn optional treatments. Prescribed burning in RHCAs is restricted by a suite of SMRs including SMR 19.
[1]Group selection (Alternative 1 only), variable thinning, black oak restoration, radial thinning, fuelwood harvest, mastication and grapple pile, and all mechanical piling including landing piles, hand piling, pile burning and prescribed burning
[2]Meadow restoration and aspen restoration
[3]Temporary roads maintenance, reconstruction and associated drainage improvements (G, H, J, M and P).
[4]As described in the proposed action A, B, C, D, E F, K and N (Alternative 1 only).

Biological Resources

Direct, indirect, and cumulative effects for Forest Service sensitive plants, aquatic resources wildlife, aquatic resources and plants, Threatened and Endangered Species, and the Management Indicator Species are summarized below and in FONSI elements #7, #9 and #10. As detailed

below, there will be no significant adverse effects expected from Alternative 1 on these resources.

Forest Service Sensitive Plants

The Saddle Project Biological Evaluation for Sensitive Plants determined that there are known occurrences of the Forest Service (FS) Sensitive plants *Ivesia sericoleuca* (Plumas ivesia) and *Pyrrocoma lucida* (sticky pyrrocoma) within the treatment areas that may be affected by Alternative 1. The Evaluation determined that because habitat for the following FS sensitive plants is present in the treatment areas (although no occurrences of these species have been found during surveys of the project area), these species may be affected by Alternative 1: *Botrychium ascendens, B. crenulatum, B. lunaria, B. minganense, B. montanum, Bruchia bolanderi, Epilobium howellii, Fissidens aphelotaxifolius, Helodium blandowii, Hydrothyria venosa, Meesia triquetra, M. uliginosa*. The FS Sensitive Fungi *Cudonia monticola, Dendrocollybia racemosa, Phaeocollybia olivacea* may also be present in the treatment areas. Because potential habitat exists in the project area, the absence of these fungi cannot be determined during surveys since there is no way to determine whether the underground portion of the fungus (mycelia) is present.

No direct effects are expected from Alternative 1 to Plumas ivesia or sticky pyrrocoma because flag and avoid mitigations with associated buffers (EA *Appendix B* SMRs 12 and 23) have been included to prevent direct impacts during unit access and tree removal. However, there is the possibility that scattered plants may be inadvertently impacted if they exist away from known sites. After silvicultural treatment in flagged areas, the Botany and Fuels staff will evaluate additional fuels reduction needs and determine the appropriate method of achieving desired fuels conditions while avoiding these sensitive plants and minimizing future spread of noxious weeds. For Alternative 1 watershed restoration Action N, pond and plug excavation actions will be located as to avoid directly affecting these species.

For the above-discussed species that that have potential habitat but do not have occurrences within the treatment areas, if new occurrences are found before or during ground-disturbing activities, they will be mitigated with flag and avoid mitigations (detailed in SMR 23), preventing direct effects. For the previously-discussed fungi, the application of boron to conifer stumps could directly affect the underground mycelium of these species. It is expected that mitigations (SMR 1, 17 and EA Chapter 1) to limit the spreading or spilling of borax, such as not using boron within 25 feet of surface water, not applying it during sustained rain and applying it only to stumps within four hours of felling, will be sufficient to reduce potential effects to a low level.

Alternative 1 may indirectly affect FS sensitive plant and fungi species by changing habitat characteristics. Changed hydrological patterns and vegetation structure due to watershed and meadow restoration actions (in Alternative 1), and general tree removal may be beneficial to *Ivesia sericoleuca* and *Pyrrocoma lucida* and some riparian species as they typically prefer areas that are more open and moist, especially during the early part of the season. Under Alternative 1 these characteristics will be enhanced in many locations.

Another potential indirect effect from Alternative 1 activities is a potential increase in noxious weeds, such as cheatgrass, bull thistle and wooly mullein, that could negatively affect the frequency and abundance of native understory vegetation including FS sensitive species.

Proposed thinning and burning in some identified locations in the project area could create open micro-sites where the shade and soil cover will be reduced, making conditions for noxious weed establishment favorable. There is little scientific information available regarding threshold levels of disturbance and native species establishment necessary to resist nonnative species invasion in open, pine-dominated, fire- and drought-resilient forests (McGlone et al., 2009). It is prudent to use prescribed underburning as a tool on a case by case basis where the need is great, rather than as a panacea for fuels reduction so that the cheatgrass does not become continuous in the understory across the landscape. The botanist will be consulted during site-specific implementation planning of the "prescribed burn optional" units to ensure the risk of cheatgrass is assessed. Flag and avoid mitigations site-specific silvicultural and fuels-management treatments and noxious weed mitigations (SMRs 23 and 24) will minimize the potential for the invasion of noxious weeds into sensitive plant occurrences but not eliminate the risk of weed invasion across the Saddle Project Area.

The Biological Evaluation for Sensitive Plants concluded that the direct and indirect effects discussed above, in combination with the cumulative effects discussed in FONSI element 7, may affect individuals, but are not likely to result in a trend toward Federal listing or loss of viability for FS sensitive plants and fungi under Alternative 1.

Forest Service Sensitive Terrestrial Wildlife

Implementation of the Saddle Project Alternative 1 will not affect individuals or habitat of the great gray owl or Pacific fisher because the Saddle Project area is outside the range of the species or does not contain suitable habitat for the species.

The IDT wildlife biologist determined that the Alternative 1 will not affect bald eagles, willow flycatchers or greater sandhill cranes as described below. Since there are no known or expected bald eagles nesting within the Saddle Bald Eagle analysis area, and Alternative 1 will not affect bald eagle habitat, it was determined that Alternative 1 will have no effect on bald eagles or bald eagle habitat. As extensive surveys have not detected willow flycatchers within or adjacent to any of the proposed treatment units, and as harvest and hand work activities adjacent to meadow systems will be of short duration (1 to 2 days), they will not affect willow flycatchers if they were present. Since sandhill crane habitat (wetlands with emergent vegetation) and known and expected locations of sandhill cranes are more than ¼ mile from proposed activities, there will be no direct or indirect effects from the proposed activities under Alternative 1 on sandhill cranes or their habitat. Further details regarding these determinations are available in the Terrestrial Wildlife BE/BA, which is incorporated by reference and available upon request.

The implementation of the Saddle Project Alternative 1 may affect individuals, but is not likely to result in a trend toward Federal listing or loss of viability for the following Forest Service sensitive terrestrial species: California spotted owl, northern goshawk, American marten, Sierra Nevada red fox, California wolverine, pallid bat, Townsend's big-eared bat, and western red bat. The analyses to support these determinations are detailed in the Terrestrial Wildlife BE/BA and are summarized below. The temporal and physical boundaries of analysis for each species is described in detail in the Wildlife BE/BA and in FONSI element #7 below, although the analysis of all species included the 17,389 acres of the Saddle Wildlife Analysis Area, which encompasses approximately 15,523 acres of forested lands, 0.5 acres covered by water, 1,512 of shrub dominated land, 92 acres grasslands, and 262 acres of wet meadow. Potential cumulative effects for each species are summarized in FONSI element #7.

California spotted owl (CSO): All activities proposed for Alternative 1 are greater than 1 mile from known or likely nesting sites (including Protected Activity Centers (PACs) and Spotted Owl Habitat Areas (SOHAs)), and will not affect these areas. There will be no direct effects to CSOs because 1) all suitable CSO habitat has been surveyed and no owls were identified within or adjacent to proposed treatments, and 2) because no PACs or SOHAs are proposed for treatment.

Alternative 1 could indirectly affect CSO habitat. Variable and radial thinning under Alternative 1 will reduce the quality of CSO habitat on approximately 429 acres of existing low quality, unoccupied nesting habitat by thinning it to become foraging habitat. Treatments on these acres will have long-term beneficial effects by preventing the potential for habitat destruction associated with high severity wildfires. Proposed underburning under Alternative 1 is expected to have a short-term negative effect to the quality of foraging habitat but will improve foraging quality of this habitat in the long-term.

Because Alternative 1 has a potential to disturb dispersing or foraging (non-nesting) spotted owls within their home range, and because Alternative 1 will reduce nesting habitat by 429 acres (9% of potential nesting acres in analysis area) of currently unoccupied low quality potential nesting habitat converted to foraging habitat, the terrestrial wildlife BE determined that implementation of Alternative 1 may affect individuals, but is not likely to result in a trend toward Federal listing or loss of viability for the California spotted owl within the planning area of Tahoe National Forest.

Northern Goshawk: The analysis area for the northern goshawk (NOGO) is approximately 31,999 acres, which includes the proposed units and a 1 mile buffer distance from the proposed units. The analysis of potential suitable goshawk habitat determined that this includes approximately 20,117 acres of suitable goshawk nesting habitat, including 2 NOGO Protected Activity Centers (PACs). Since noise from timber harvesting activities (felling trees and associated operations, decking logs, hauling, road construction, mastication, and other heavy equipment operation) will be greater than ¼ mile from known nesting stands, and all suitable habitat has been surveyed to R-5 protocol and no new goshawks were detected, the proposed activities will have a low probability of disturbing nesting individuals. Since suitable habitat has been surveyed and all known or expected resident goshawks have been protected with a PAC, and no activities are proposed within ¼ mile the known nesting areas of these PACs, it is unlikely the activities proposed under Alternative 1 will have direct effects to nesting goshawks.

Alternative 1 could indirectly affect NOGO habitat. Alternative 1 will reduce approximately 105 acres of goshawk nesting habitat as a result of meadow and aspen restoration activities. The recovery of the meadow and aspen communities are expected to increase foraging opportunities for goshawk. Underburning will reduce the density of understory trees and brush, but will not cause a reduction in the existing canopy closure (dominants and co-dominants). Under Alternative 1, the variable thinning, radial thinning, and group selection treatments may temporarily disturb foraging goshawks, but will have long term beneficial effects to the quality of foraging habitat. Variable thinning will enhance and maintain important structural habitat characteristics that increase prey diversity and open understory necessary for goshawk maneuverability. Because goshawks are known to forage on edge habitats where species diversity and abundance is more complex, and select larger trees for nesting, radial thinning and group selection treatments will increase the quality of goshawk foraging habitat, while maintaining suitable nesting habitat.

American marten: The marten wildlife analysis area includes all potentially suitable marten habitat within one mile of the Alternative 1 units, totaling 31,999 acres of publically-owned and private land. While there have been no individual martens or denning sites detected within proposed treatment units, current surveys cannot conclude marten absence. Based on analysis area habitat characteristics, it is expected that marten forage or reproduce within the Saddle Analysis Area and there is a low probability marten will be directly affected by equipment or noise under Alternative 1. The BE supports the IDT wildlife biologist's determination that due to this probability, implementation of activities under Alternative 1 may temporarily directly affect foraging martens, and could temporarily directly affect unknown denning individuals.

The IDT wildlife biologist determined that implementation of Alternative 1 may affect individuals, but is not likely to result in a trend toward Federal listing or loss of viability for American marten within the planning area of the Tahoe National Forest (Saddle Project Terrestrial Wildlife BE). Stephens and Moghaddas (2005) found that use of prescribed fire increased the density of snags greater than 15 cm DBH, and did not significantly alter coarse woody debris in decay classes 1 and 2 (less decayed material). In the same study, the authors found that fire reduced coarse woody debris in decay classes 3 and 4 (more decayed material). The use of prescribed fire will increase the fire resilience of these stands to catastrophic loss in a wildfire, and it re-introduces fire back into the system as a dynamic process. To benefit marten habitat, SMR 31 (included in EA Appendix B) will be required during project implementation, and will require the maintenance of at least 10 tons/acre of coarse woody debris in decay classes 1 and 2 (approximately 15 medium to large logs/acre) in specific treatment areas.

Sierra Nevada red fox: The Saddle Project is not expected to have measurable negative direct or indirect effects on the Sierra Nevada red fox because there are no historical or camera detections of Sierra Nevada red foxes within the Sierraville Ranger District or the Saddle analysis area, all proposed units are below 6,800 feet in elevation and Sierra Nevada red fox typically occur above 7,000 feet in elevation, and there are no proposed activities within older forested stands in the red fir zone. Implementation of Alternative 1 could temporarily disturb red foxes that were foraging or denning; however, the probability of disturbing red foxes is very low because it is unlikely they will be present in the vicinity of the project area. The IDT wildlife biologist determined that Alternative 1 of the Saddle Project may affect individuals, but are not likely to result in a trend toward Federal listing or loss of viability for Sierra Nevada red fox within the planning area of the Tahoe National Forest.

California Wolverine: The Terrestrial Wildlife BE supports the IDT wildlife biologist's determination that Alternative 1 will not have measurable direct effects on the wolverine and will have beneficial indirect and cumulative effects on wolverine habitat. While recent detections of an individual male wolverine were adjacent to the Saddle Analysis Area, the individual was well below the expected elevational range for breeding wolverines. Wolverine are not expected to utilize the areas within and adjacent to Saddle Project Area units during the summer months as the project area is well below the expected elevational range of wolverine breeding and denning habitat (above 8,000 feet). If wolverines forage in the project area, it is expected to occur only during the winter and spring when project activities will not occur.

Thinning and underburning under Alternative 1have the potential to indirectly negatively affect the abundance and distribution of wolverine prey in the short term. However, the proposed activities will have long term beneficial effects as the stands treated will be more fire resilient and will have a higher probability of persisting in the event of a wildfire. The proposed

activities are not expected to have measurable effects on foraging wolverines because the wolverine is opportunistic in its food habits, has a large home range size and extensive daily movements. The terrestrial wildlife BE supports the IDT wildlife biologist's determination that implementation of Alternative 1 may affect individuals, but is not likely to result in a trend toward Federal listing or loss of viability for California wolverine within the planning area of the Tahoe National Forest.

Pallid, Townsend's big-eared, and western red bats: The terrestrial wildlife BE concludes that implementation of the Saddle Project may affect individuals but is not likely to result in a trend toward Federal listing or loss of viability within the planning area of the Tahoe National Forest for the pallid, Townsend's big-eared, or western red bat. Implementation of Alternative 1 may temporarily affect individual foraging, and roosting pallid bats, but is not expected to affect maternal roost sites of the pallid bat, or pallid bat prey base. For the Townsend's big-eared bat, Alternative 1 is not expected to have measurable negative effects although there is a low potential that summer roosting solitary male bats may be disturbed during thinning operations, but this disturbance will be localized and will affect individuals (not colonies). Even though some individuals may be affected, breeding habitat, population density, and maternal colonies are not expected to be negatively affected. For the western red bat, because Alternative 1 activities are at elevations above which this species typically breeds, and the actions will not directly alter roosting habitat represented by riparian hardwood trees, especially with the required adherence to RHCA guidelines within riparian areas, implementation of Alternative 1 will not adversely affect this species.

Management Indicator Species (MIS)

The Tahoe National Forest LRMP as amended by the Sierra Nevada Forests Management Indicator Species Amendment (SNF MIS Amendment) Record of Decision (USDA December 2007guides each project to provide the wildlife habitat and other ecological conditions necessary to maintain well-distributed viable populations of Management Indicator Species (MIS) in the project area and bioregional scale, and maintain diversity of plants and animals (Tahoe National Forest LRMP as amended by the Sierra Nevada Forests Management Indicator Species Amendment (SNF MIS Amendment) Record of Decision (USDA December 2007)).

The applicable Project-Level MIS for the Saddle Project are mule deer (Oak-Associated Hardwoods and Hardwood/Conifer), yellow warbler (Riparian), mountain quail (both Early- and Mid-Seral Coniferous Forest), California spotted owl, American marten, northern flying squirrel (late-seral closed canopy), hairy woodpecker (Snags in Green Forest), Pacific tree frog (Wet Meadow), and macroinvertebrates (Lacustrine/Riverine). The Saddle Project terrestrial species Management Indicator Species Report analysis area included the habitat within each proposed treatment unit and within a ¼ mile buffer around each proposed treatment area to total 14,535 acres of both National Forest and non-National Forest land. The spatial extent of the analysis area for the aquatic species MIS includes the Carmen Creek, Fletcher Creek, Folchi Meadow and Turner Canyon subwatershed. (See Aquatics BA/BE Analysis Map 1.) The temporal scale for each MIS report extends from approximately 1980 (the beginning of the current land and Resource Management Plan) to 2013 (when the last of the HFQLG projects will be implemented).

The MIS Reports determined that Project-Level habitat impacts on any MIS will not be significant and will not contribute to Bioregional-Scale trends for any MIS. Summaries for each

habitat-population trend are provided below and details are presented in the Saddle Project MIS Reports, which are incorporated by reference.

Mule deer (oak habitat): Alternative 1 will potentially have beneficial effects to oak habitat on approximately 18 acres with oak restoration, variable and radial thinning treatments designed to benefit oak trees. Alternative 1 has no expected negative direct, indirect or cumulative effects to oak habitat. At the bioregional level, because the change in conifer canopy cover from Alternative 1 to benefit oak is a small acreage compared to oak-associated hardwood and hardwood/mixed conifer habitat in the Sierra Nevadas, it will not have measurable effects to the bioregional trends mule deer are experiencing in the Sierra Nevadas. It will not alter the existing trend in the habitat, nor will they lead to a change in the distribution of mule deer across the Sierra Nevada bioregion.

Yellow warbler (Riparian Habitat): Approximately 134 acres of the Saddle analysis area is typed as montane riparian (MRI) habitat. Alternative 1 will affect approximately 22 acres of MRI habitat through thinning of encroaching conifers and underburning. These actions will directly remove conifer overstory, but will indirectly beneficially increase resource availability and sunlight penetration to the understory riparian habitat. At the bioregional level, because the potential reduction in MRI habitat due to Alternative 1 in the bioregion will be negligible (0.006%), it was determined that Alternative 1 will not alter the existing trend in the habitat for yellow warbler, nor will implementation of Alternative 1 lead to a change in the distribution of yellow warblers across the Sierra Nevada bioregion.

Mountain quail (both Early- and Mid-Seral Coniferous Forest Habitat): Alternative 1 proposes vegetative treatments (thinning, meadow restoration and underburning) within 4,885 acres of early and mid seral habitat types (approximately 45% of the early and mid seral habitat within the Saddle Analysis Area). Approximately 59 acres of conifer forest habitat will be directly affected in meadow restoration treatments with the removal of encroaching conifers, converting this habitat type. With the variable and radial thinning treatments, the canopy closure in 493 acres of CWHR D stands (60 percent and greater canopy cover) will be converted to CWHR M (40 to 59 percent canopy cover), while maintaining the early- or mid seral habitat classification. Underburning only on 389 acres and post-silvicultural treatment (follow-up) underburning on up to 3,629 acres (likely implemented at a rate of approximately 349 acres per year over 10 years) is planned within both early and mid seral mountain quail habitats. These fuels treatments could have short term negative effects to ground vegetation and brush but will retain the seral habitat classification and will have long term beneficial indirect effects to mountain quail habitat In conclusion, Alternative 1 will reduce approximately 59 acres of mid seral habitat through meadow restoration activities. This will equate to approximately 0.002% of the habitat in the Sierra Nevada. Alternative 1 will not alter the existing trend in mountain quail mid or early seral habitats, nor will it lead to a change in the distribution of mountain quail across the Sierra Nevada bioregion.

California spotted owl, American marten, northern flying squirrel (Late Seral Closed Canopy Coniferous Forest Habitat): The CWHR analysis identified approximately 90 acres of late seral closed canopy habitat (CWHR 5M, 5D, and 6) within the Saddle Project analysis area on national forest system land. There are approximately 130 acres of late seral habitat on non-national forest system land within the analysis area. Alternative 1 proposes vegetation treatments within approximately 75 acres of CWHR SMC6 habitat. It will retain large snags down logs per LRMP standards and guides. Alternative 1 will hand thin 18 acres, and variable and radial thin

approximately 57 acres. The mechanical treatments will not reduce late seral closed canopy acres, but could change canopy closure of 57 acres to "M". Therefore, Alternative 1 will reduce canopy closure on 57 acres, but will not change total late seral closed canopy habitats (CWHR 5D will be changed to 5M). Thinning these acres may have long term beneficial effects, by reducing the potential for loss from wildfire and increased forest health.

Under Alternative 1, there will be no change in large snags and large logs, nor any net reduction in late seral closed canopy habitat. The change in canopy closure from "D" to "M" under Alterative 1 on 57 acres out of 220 total acres of late seral closed canopy coniferous forest habitat in the Saddle Project Area will not alter the existing trend in the habitat, nor will it lead to a change in the distribution of California spotted owl, American marten or northern flying squirrel across the Sierra Nevada bioregion.

Hairy woodpecker (Snags in Green Forest Habitat): Alternative 1 occurs in lands that have historically been timber harvested and are second growth. The landing and road system is currently in place and will be used by the activities. It is not expected any new roads or landings will be necessary to complete the proposed activities, but some existing temporary roads will be used. Information about existing levels of snags and down wood is available in the Saddle Project CWHR Report, and Alternative 1 is designed to avoid removing medium and large snags. It is not expected that this project will alter the existing trend in the ecosystem component, nor will it lead to a change in the distribution of hairy woodpecker across the Sierra Nevada bioregion.

Pacific tree frog (Wet Meadow Habitat): This broad-ranging species requires standing water for breeding; tadpoles require standing water for periods long enough to complete aquatic development, which can be as long as 3 or more months at high elevations. Saddle Project Alternative 1 will implement approximately 123 acres of thinning to remove selected conifers along the perimeters of wet meadows to restore the connectivity of the stream to the meadow and allow for more interaction of hydrologic processes in the Fletcher Creek subwatershed. These actions will directly benefit wet meadow habitat. Under Alternative 1, the thinning of the uplands and removing conifers from the meadow margins in and around the meadow systems could reduce the amount of transpiration and interception of precipitation. This could indirectly affect the location of water in the system and may manifest into an increase of soil moisture, understory productivity, runoff, and/or stream base flow. This retention of moisture will likely enhance the riparian vegetation.

Alternative 1 provides for use of mechanical equipment within RHCAs along wet meadow perimeters. Potential adverse effects (including increased soil displacement, soil compaction, and removal of soil cover on skid trails) would be mitigated through implementation of a broad suite of standard management requirements (SMRs) designed to prevent and decrease these effects. Potential adverse effects should be prevented or mitigated by SMRs 1, 3, 4, and 5, which will prevent the location of skid trails in RHCAs, prevent mechanical actions on steep slopes, require ground cover retention, and prescribe the location of used landings (see EA Appendix B). Cumulatively, Alternative 1 will add to beneficial effects being implemented in nearby projects such as the Carmen Watershed Restoration Projects. In conclusion, direct, indirect and cumulative effects to wet meadow habitat from Saddle Project Alternative 1 will not alter the existing trend in the habitat for the Pacific tree frog, nor will it lead to a change in the distribution of Pacific tree frogs across the Sierra Nevada bioregion.

Macroinvertebrates (Lacustrine/Riverine Habitat): Aquatic or Benthic Macroinvertebrates (BMI) are useful indicators of water quality and aquatic habitat condition. They are sensitive to changes in water chemistry, temperature, and physical habitat.

Treatment actions in RHCAs under Alternative 1 could affect water chemistry, temperature, or physical habitat by directly affecting water surface shade and by indirectly affecting stream flow and sedimentation. Alternative 1 proposes to treat no more than 1,345 acres within RHCAs. In addition, approximately 8.1 miles of existing roadbeds will be temporarily used under Alternative 1. To minimize potential effects to water chemistry, temperature, or physical habitat, standard management requirements (SMRs) and BMPs have been developed (Saddle Project EA Appendix B and RHCA Treatment Summary, Appendix C). With proper implementation of these protective measures, including limitations to operations within RHCAs (SMR 11) and restrictions from operating within at least 25 feet of streambanks (SMRs 9, 10), effects from the treatments should not significantly alter BMI habitat attributes identified within this analysis for aquatic species. The meadow restoration actions and road improvement actions proposed under Alternative 1 could have a beneficial effect on BMI habitat by restoring a more sustainable vegetation condition and maintain riparian habitat values. Cumulatively, the existing condition of lacustrine/riverine habitat in the project area should improve, as effects from past activities including railroad logging are being addressed today through restoration projects and changes in management techniques, and as these efforts continue, the future magnitude of these effects should be reduced. The minor and temporary effects of the Saddle Project will not add cumulatively to a level of significance to these conditions. The MIS report concludes that the direct, indirect and cumulative effects of the Saddle Project will not alter the existing trend in the habitat or aquatic macroinvertebrates at the Project level or across the Sierra Nevada bioregion.

Forest Service Sensitive Aquatic Wildlife

The IDT aquatic biologist determined that implementation of the Saddle Project Alternative 1 will not affect the following Forest Service sensitive aquatic species: northern leopard frog, foothill yellow-legged frog, Lahontan cutthroat trout, Great Basin rams-horn snail, Lahontan Lake tui chub, hardhead, California floater, or northwestern pond turtle. For these species, there will be no direct, indirect or cumulative effects because the Saddle Project is outside of the historic range of each species. The aquatic species BE supports the biologist's determination that Alternative 1 may affect individuals of mountain yellow-legged frogs but is not likely to result in a trend toward Federal listing or loss of viability for this species within the planning area of the Tahoe National Forest. The analyses that support these determinations are summarized below and detailed in the Aquatic Species BE, which is incorporated by reference.

During the course of surveys conducted for amphibians within the Saddle Project analysis area (2000-2008), no sightings of mountain yellow-legged frogs (MYLF) were recorded; however, not all habitats were surveyed. Because there is suitable habitat within the Saddle project area, the Aquatics BE concludes that Alternative 1 may affect individuals of mountain yellow-legged frogs, *Rana muscosa*, but are not likely to result in a trend toward Federal listing or loss of viability for this species within the planning area of the Tahoe National Forest.

Direct effects to MYLFs (if they were present) could occur where treatment units are in close proximity to streams and meadow habitat. For instance, individual frogs could be affected by equipment activity associated with mechanical treatments near riparian areas or meadows, and by pile burning, especially when implemented in close proximity to perennial water bodies. To

prevent direct effects, multiple Standard Management Requirements (SMRs) have been developed (see EA Appendix B). For instance, no pile burning or prescribed burn ignitions will occur within 25 feet of riparian vegetation or water courses or within 50 feet of fens and springs under SMR 20. In areas noted by the aquatics biologist as MYLF habitat or breeding areas, a limited operating period (LOP) will be implemented to prevent ground disturbing activities during a time when they are known to move away from stream courses (SMR 28). In addition, use of water drafting sites known to be used by MYLF will be restricted or modified (SMR 28).

Mountain yellow-legged frog habitat could also be affected by project activities under Alternative 1, which could indirectly affect mountain yellow-legged frogs. Stream survey data shows that many stream reaches within the analysis area currently exhibit undesirable habitat characteristics such as unstable stream banks, moderate and high percentages of fine sediment, and low quantities of coarse woody debris. While the SMRs, including equipment exclusion zones per SMRs 4 and 9, will reduce the risk for project activities to negatively affect these resources, there is still a small potential for heavy equipment use to generate fine sediment. In addition, due to the existing condition of the area as well as the Saddle project need to reduce hazardous fuels and complete the DFPZ, coarse woody debris will be reduced through a decrease in future log recruitment (by removing current small trees) and reduced associated duff layers. Proposed Action elements 3, 4, and 5 were designed to reduce this risk with consistency to the 2004 SNFPA, and SMR 19 (EA Appendix B) will mitigate risk with additional down wood retention in targeted areas.

(2) Degree to which the Proposed Action Affects Public Health and Safety

Alternative 1 will have no adverse effects on public health and safety as detailed in the Human Health and Safety analysis for the Saddle project and the *Health and Safety* and *Ecological Risk Evaluation for Borax Stump Treatment* (both incorporated by reference and available upon request). Occupational Safety and Health Administration (OSHA) regulations apply to silvicultural activities and road maintenance, improvement and construction, which will help prevent accidents and injuries in the course of project operations. As discussed under FONSI Element #1 above and detailed in the *Saddle Project Fire and Fuels Analysis*, Alternative 1 will create a safer firefighting environment, and will improve stand health to aid in suppression efforts by slowing fire spread, reducing the potential for crown fire, and allowing for greater connectivity of existing treatments.

Smoke from burning in the Saddle Project area near Calpine could potentially temporarily affect the Calpine community area, potentially affecting visibility, safety, and/or human health. As wind generally trends from the southwest in the Sierraville District, there is a potential for some smoke to drift north or east and affect the communities of Portola and Loyalton, and homes in the Sierra Valley. As these are more than 5 miles away, the smoke is likely to be dispersed. Mitigation of smoke impacts will consist of elements discussed in the Saddle *Air Quality Report*, including burning under favorable atmospheric conditions; limiting acres burned daily; allowing piles to dry before ignition; and ceasing ignition if smoke dispersion conditions degrade. Monitoring of smoke transport is required by Northern Sierra Air Quality Management District (NSAQMD) in the smoke management plan. Daily coordination with NSAQMD and review of a daily spot weather forecast from the Redding Fire Weather office is required prior to igniting any prescribed fire.

A Human Health and Safety and Ecological Risk Evaluation for Borax Stump Treatment (Borax Risk Assessment) has been completed for the Saddle Project and is attached to the Forest Vegetation Report. The analysis finds that the proposed application of borax on cut conifer stumps to minimize the spread of Annosus root disease will not pose a risk to workers or the public when federal, state and local regulations and BMPs for the use of pesticides are strictly adhered to, including spill contingency planning, following label requirements, and use of personal protection equipment during application.

(3) Unique Characteristics of the Geographic Area

This element includes unique characteristics of the geographic area such as proximity to historic or cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas. No parklands, prime farmlands, wild and scenic rivers, or ecologically critical areas will be affected by any proposed treatments under Alternative 1. This project area has been surveyed and analyzed for historical and cultural resources. Results of that work determined that Alternative 1 will have no effect on any historical or cultural resources eligible for the National Register of Historic Places, nor will it cause the loss or destruction of any significant cultural or historical resources. The project has been designed to avoid impacts on historical and cultural resources through implementation of mitigation measures specified in *Appendix B* of the Saddle Project EA (SMRs 25, 26 and 27 and Contract Clause C6.24# - Site Specific Special Protection Measures).

(4) Degree to which Effects on the Human Environment are Likely to be Highly Controversial

While concerns were expressed by some individuals during public collaboration and scoping about the Proposed Action, the effects of this project on the quality of the human environment are not likely to be highly controversial due to the limited size of the project area, limited scope of Alternative 1 and the effectiveness of the project design features and management requirements (detailed in Chapter 2 and EA *Appendix B*) in reducing impacts on forest resources. The project is designed to improve existing conditions regarding ecological resiliency and heterogeneity, and to restore meadow, oak and aspen communities. It will more fully establish the DFPZ fire suppression abilities. Members of the public suggested the examination of an alternative that is consistent with the 2001 Forest Plan amendment; EA *Appendix F* presents how this was considered but eliminated from detailed consideration by the interdisciplinary team. While some opposition to the Herger-Feinstein Quincy Library Group Forest Recovery Act and 2004 SNFPA ROD does exist on the part of some individuals and groups, the environmental effects of this project are unlikely to be highly controversial.

(5) Degree to which the Possible Effects on the Human Environment are Highly Uncertain or Involve Unique or Unknown Risks

Alternative 1 is similar to projects that have been implemented on the Sierraville Ranger District on the Tahoe National Forest for at least the past 10 years without significant impacts. Project design elements included in Alternative 1 will reduce and minimize to the point of non-significance any impacts that might have otherwise been uncertain, unique, or unknown.

(6) Degree to which the Action May Establish a Precedent for Future Actions with Significant Effects or Represents a Decision in Principle about a Future Consideration

Alternative 1 will not establish a precedent for any future action, nor represent a decision in principle about a future consideration. The decision will apply only to the Saddle Project, as described in EA Chapter 1. Any future actions will be analyzed separately and on their own merits through additional environmental analysis and decision making in compliance with NEPA.

(7) Whether the Action is Related to Other Actions with Individually Insignificant but Cumulatively Significant Impacts

A cumulative effect is the consequence on the environment that results from the incremental effect of the action when added to the effects of other past, present, and reasonably foreseeable future actions, regardless of what agency or person undertakes the other actions and regardless of land ownership on which the actions occur. An individual action when considered alone may not have a significant effect, but when its effects are considered in sum with the effects of other past, present, and reasonably foreseeable future actions, the effects may be significant.

In cumulative effects analyses, current resource conditions are used to represent the composite of past actions and natural events that have taken place within the project area. This environmental analysis does not attempt to quantify the effects of past human actions by adding up all prior actions on an action by action basis. There are several reasons for not taking this approach. First, a catalog and analysis of all past actions will be impractical to compile and unduly costly to obtain. Current conditions have been impacted by innumerable actions over the last century (and beyond), and trying to isolate the individual actions that continue to have residual impacts will be nearly impossible. Second, providing the details of past actions on an individual basis will not be useful to predict the cumulative effects of Alternative 1. In fact, focusing on individual actions will be less accurate than looking at existing conditions, because there is limited information on the environmental impacts of individual past actions, and one cannot reasonably identify each and every action over the last century that has contributed to current conditions. Additionally, focusing on the impacts of past human actions risks ignoring the important residual effects of past natural events, which may contribute to cumulative effects, just as much as the human actions. By looking at current conditions, we are sure to capture all the residual effects of past human and natural events, regardless of which particular action or event contributed those effects. Finally, the Council on Environmental Quality issued an interpretive memorandum on June 24, 2005 regarding analysis of past actions, which states, "agencies can conduct an adequate cumulative effects analysis by focusing on the current aggregate effects of past actions without delving into the historical details of individual past actions." For these reasons, the analysis of past actions in this document is based on current environmental conditions.

The cumulative effects analysis in this EA is also consistent with Forest Service National Environmental Policy Act (NEPA) Regulations (36 CFR 220.4(f)) (July 24, 2008), which state, in part:

"CEQ regulations do not require the consideration of the individual effects of all past actions to determine the present effects of past actions. Once the agency has identified those present effects of past actions that warrant consideration, the agency assesses the extent that the effects of the

proposal for agency action or its alternatives will add to, modify, or mitigate those effects. The final analysis documents an agency assessment of the cumulative effects of the actions considered (including past, present, and reasonable foreseeable future actions) on the affected environment. With respect to past actions, during the scoping process and subsequent preparation of the analysis, the agency must determine what information regarding past actions is useful and relevant to the required analysis of cumulative effects. Cataloguing past actions and specific information about the direct and indirect effects of their design and implementation could in some contexts be useful to predict the cumulative effects of the proposal. The CEQ regulations, however, do not require agencies to catalogue or exhaustively list and analyze all individual past actions. Simply because information about past actions may be available or obtained with reasonable effort does not mean that it is relevant and necessary to inform decision-making (40 CFR 1508.7)." For these reasons, effects analyses of past actions in this part are based on existing environmental conditions.

Past, present and reasonably foreseeable future actions

Each resource specialist established geographic and temporal boundaries for their respective cumulative effects resource analysis, and determined past, present and reasonably foreseeable future effects that are relevant within their respective boundaries. The following actions were relevant to most of the resources:

Present and Reasonably Foreseeable Future Actions: The following Forest Service projects occur within the Saddle Analysis Area that has been delineated to assess cumulative effects for most of the potentially affected natural resources and riparian areas. Ongoing vegetation management activities within the analysis area on National Forest Service System (FSS) land include hazard tree reduction along primary FSS routes and fuels reduction treatments via prescribed burning under the Borda Project, which is expected to continue 1-3 years into the future before completion. The Saddle and Borda Project share common objectives for forest health and fuels reduction, however, desired conditions for forest vegetation under the Saddle Project place a stronger emphasis on ecosystem restoration. The Beckworth allotment is the only grazed allotment within the analysis area, and it is currently grazed by one band of sheep (735 sheep), and 40 cow/calf pairs. The allotment management plan was revised through the NEPA process during the Carman Watershed Restoration Project in 2000. The Brumby Project is a Sierraville FS thinning project adjacent to Calpine, and will thin approximately 154 acres. The Maybe Project, implemented by the adjacent Plumas NF Beckwourth RD, has thinned 2,345 acres, and will complete fuels management activities (burning of piles and underburning) over the next 3 years.

Ongoing and foreseeable future timber management on private land within the Saddle Project analysis area include timber harvest on 102 acres under two Timber Harvest Plans and the harvest of dead/diseased trees, Christmas trees, and fuelwood under three approved Exemptions on file with the California Department of Forestry and Fire Protection (CALFIRE). Two approved Non-Industrial Timber Management Plans (NITMP), which have no expiration date are also on file with CALFIRE. The Railroad NITMP plan covers 592 acres of Individual Tree Selection and Group Selection silvicultural systems to maintain growth and yield over time under an uneven-aged stand structure. To date one commercial entry has been made. The Coyote NITMP permits single tree selection on 2,049 acres with removal of timber products on a sustained yield basis. One harvest entry is scheduled over the next 10 years under this plan.

According to the Coyote NITMP, harvest will result in positive impacts to forest health as suppressed, intermediate or otherwise low-vigor trees are harvested, redistributing growth onto fewer, more dominant trees, leading to increased stand vigor and increased resiliency to fire, insects and pathogens.

The Sierra County Fire Safe and Watershed Council has completed fuels reduction on small private land ownerships in the vicinity of Calpine, California that complements the fuels reduction treatments completed on NFS land under the Borda Project. Future projects on these small ownerships are likely to continue within the analysis period in the vicinity of the Calpine community, depending on available funding and landowner interest.

Notable past actions: Watershed restoration activities on national forest lands within the analysis area have been completed under the Carman I Project, and are planned under the Carman II Watershed Restoration Projects. These projects are designed to restore the hydrologic function of watersheds that have been significantly degraded by historic grazing practices, railroad and road construction and timber harvest. Completion of the these projects will effectively raise the water table to historic levels, and restore hydrologic function of the Carman Valley, Knuthsen and Folchi Meadows, as overland flow is returned to historic channels. Implementation of plug and pond and other techniques to date have already yielded positive results on restoring meadow vegetation and function. Meadow restoration and enhancement, including aspen restoration, as proposed by the Saddle Project will contribute cumulative beneficial effects toward restoring the role of meadows in moderating flow through storage of water in soils, vegetation, and subsurface aquifers. These beneficial effects include a reduction in peaks and extension of late season flow, which create favorable conditions for the reestablishment of meadow vegetation.

In 2003 the Borda Project was developed by the Forest Service in the eastside pine forest type near Calpine to establish the initial Defensible Fuels Profile Zone (DFPZ). The project was a first-step effort to reduce overstocked conditions and hazardous fuels conditions along the most accessible terrain, such as areas along major roads and areas adjacent to Calpine. Prescribed burning activities are still being completed in the project area.

Soils

As detailed in the Saddle Soils Report, there are no foreseeable cumulative effects from Alternative 1 to soil cover or organic material (large woody debris or coarse or fine organic material) due to acceptable existing conditions and resource protection measures that will prevent effects associated with implementation of Alternative 1. Soil porosity (measured as compaction) in several localized areas is at risk of cumulative effects; although as described below, this risk is mitigated by protection measures.

Legacy compaction from previous actions currently exists in group selection treatment units 6804062, 6804014, 6804010, and 6804040. In these units, the extent of compaction exceeds the Forest Plan standard and guideline for soil porosity. Activity area 6804040 has legacy compaction levels that exceed the standard and guideline (>15% of the activity area). However, the extent of compaction in this unit has a low potential to affect soil productivity primarily due to the gravelly components in these major soils. Much of the compaction in this unit is attributed to recreational use adjacent to the road. Three other activity areas 6754024, 6854043 and 6804007 have a high legacy compaction and are at risk for exceeding compaction standards. Of these units, only activity area 6854043 has a risk of impairing productivity and that risk is

considered low based on soil texture. In conclusion, although one unit currently exceeds the soil porosity standard and three others are at risk of exceeding the standard, impairment to long-term soil productivity is not expected in these four units under implementation of Alternative 1.

Under Alternative 1 these existing compaction levels could be maintained or may be improved through implementation of Standard Management Requirement (SMR) 19. With implementation of Alternative 1, there will be a reduction in the existing compaction extent when; 1) existing compacted skid trials not previously sub-soiled are sub-soiled, or 2) where group selections placed over previously compacted soils are sub-soiled.

Hydrology: Cumulative Watershed Effects

Cumulative watershed effects are the combined effects of past, present, and future land management activities within a watershed that may affect the watershed's hydrologic structure or process. The Forest Service's Pacific Southwest Region uses a standardized analysis process to assess the potential risk of cumulative watershed effects resulting from management activities (FSH 2509.22). This cumulative watershed effects analysis compares (a) the existing level of land disturbance within a watershed with (b) an estimate of the upper limit of watershed tolerance to disturbance, referred to as the Threshold of Concern (TOC). The level of land disturbance is measured using Equivalent Roaded Acres (ERAs), in which all disturbances are equated to an acre of road. The cumulative watershed effects analysis then recovers these disturbances over some period of time following a specified recovery curve. The existing ERA of a watershed is compared to the TOC to provide an assessment of the potential for cumulative watershed effects. The Saddle Project Cumulative Watershed Effects Assessment (CWEA) details the ERA methodology and analysis for this project. (Refer to the CWEA Report and attachments for more information, which are incorporated by reference and available upon request).

The spatial boundary for the CWEA analysis was selected to capture the full extent of the watersheds that drain the project area and surrounding upland areas. Saddle Project area discharges to the Sierra Valley from the headwaters of the Middle Fork of the Feather River; this discharge defines the spatial boundaries of the CWEA. The headwater watersheds include the Berry Creek Catchment and the Carman Creek Catchment at the HUC 6 level. Within the Berry Creek Catchment, drainages that were assessed for disturbance at the HUC 7 level include Turner Canyon, Fletcher Creek and an Unnamed Tributary to Sierra Valley. Within the Carman Creek Catchment drainages that were assessed for disturbance at the HUC 7 level include West Fork Carman Creek, East Fork Carman Creek, and Folchi Meadows. Eleven acres are proposed for treatment near the apex of the drainage divide between the Headwaters of the North Yuba River and the Sierra Valley Watershed. Because the vegetation treatment is near the divide and because there are no considerable up-gradient disturbances to impact this area, no change in the ERA ratio will result from this action and it is not further considered in the ERA analysis. The maximum potential ERA/TOC ratios by watershed are presented in Tables 4a and 4b.

Within the Berry Creek Catchment, the Unnamed Tributary to the Sierra Valley and the Turner Creek watersheds were determined to have ERA ratios below 0.64. However, the proposed treatment in Fletcher Creek was determined to exceed the TOC with a ratio of 1.34 under Alternative 1. Within the Carman Creek Catchment, the West Fork Carman Creek and Folchi Meadows drainages have ERA ratios below 0.71. However, the proposed treatment in the East Fork Carman Creek will exceed the TOC with a ratio of 1.12 under Alternative 1.

Cumulative Effects Risk Assessment

Site-specific factors related to assessing the cumulative effects and considering the estimated risk are described in the following paragraphs.

Table 4a: Results for the Saddle Project Affected Watersheds ERA/TOC ratios: Sierra Valley HUC 6 Catchment – Berry Creek

HUC 7 Drainage (acres)	Existing 2011 ERA/TOC Pre-project	Maximum Future ERA/TOC	Risk of Cumulative Effects
Turner Creek (4394.4)	0.5	Alt 1:0.64	Unlikely
Unnamed Tributary (4352.8)	0.41	Alt 1:0.51	Unlikely
Fletcher Creek (4354.8)	0.80	Alt 1:**1.34**	Alt 1: Moderate Alt 3**:** Low
The maximum ratios are based on maximum ERAs over the years analyzed.			

Table 4b: Results for the Saddle Project Affected Watersheds ERA/TOC ratios: Sierra Valley HUC 6 Catchment – Carman Creek

HUC 7 Drainage (acres)	Existing 2011 ERA/TOC Pre-project	Maximum Future ERA/TOC	Risk of Cumulative Effects
East Fork Carman Creek (5701.9)	0.70	Alt 1:1.12	Alt 1: Low Alt 3: Unlikely
West Fork Carman Creek (4979.3)	0.43	Alt 1:0.71	Unlikely
Folchi Meadows (4305.6)	0.25	Alt 1:0.28	Unlikely
The maximum ratios are based on maximum ERAs over the years analyzed.			

The Equivalent Roaded Area analysis indicates the 7th field HUC exceeds threshold in Fletcher Creek and in the East Fork of Carman Creek. A brief synopsis of the relationship of risk and known information regarding these two watersheds are discussed below. Each area's risk analysis is also discussed and compared by alternative in the following paragraphs.

With additional restoration implemented in the East Fork of the Carman Creek area, the TOC will increase based on improved channel hydrology. The change in the TOC will effectively reduce the ERA when channel recovery occurs. Currently, plans to implement the restoration designs in the East Fork, West Fork of Carman Creek and in Folchi Meadows are underway. Implementation of portions of the reaches proposed to be restored are expected within 2 to 5 years; however, as implementation is based on funding it is uncertain when implementation of identified areas needing restoration will occur. Due to the uncertainty of timing of implementation and due to recovery time following implementation (approximately 5-10 years), these benefits are not incorporated into the ERA analysis. Without restoration, the ERA estimate results for this watershed remain above threshold for four years following the first year of implementation of Alternative 1. The ERA relationship with the TOC could result in the ERA below threshold, depending on timing of restoration versus project implementation.

Alternative 1 shows there is a risk of cumulative effects by the Equivalent Roaded Area method for the 7th field HUC in Fletcher Creek and the East Fork of Carman Creek exceed the threshold. The risk of cumulative effects from implementing the proposed action in Fletcher Creek is determined to be moderate under Alternative 1 based on the resulting TOC/ERA ratio of 1.34. The risk of cumulative effects from implementing the proposed action in the East Fork Carman Creek drainage is low under Alternative 1 based on the resulting TOC/ERA ratio of 1.14. Alternative 1 meets the RMO direction by improving hydrologic processes that reduce sediment, and improve hydrologic function for flood routing, channel stability and riparian health.

The following site-specific factors are expected to moderate the risk in the Fletcher Creek Drainage:

- The north facing aspect at the southern extent of the watershed has moist springs and available water that can result in healthy root system and riparian vegetation surrounding the drainages,
- The fractured bedrock substrate in this watershed may contribute to reduction in cumulative effects from mechanisms related to subsurface water movement and soil storage capability, and
- Management requirements minimize the potential for impacts.

These factors could aid in quicker stability of the system following project implementation and as the current stream channel conditions are in relatively good condition with riparian vegetation surrounding the drainages and have fair access to the floodplain, the system may provide an additional resiliency minimizing potential cumulative effects.

The following site-specific factors are expected to moderate the risk in the East Fork of Carman Creek Drainage:

- The existing conditions of the stream channel due to historic actions are already in a degraded environment that will be improved with restoration of the meadows.
- Implementation of proposed restoration activities will provide improved future watershed conditions not accounted for at this time.
- Management requirements minimize the potential for impacts.
- Where Carman Creek Restoration actions are implemented before the first large precipitation event following treatment, the risk of cumulative effects could further be reduced.

Project design features, including BMPs and other management requirements described in EA Appendix B, along with regional BMP monitoring practices reduce the potential for impacts for sediment increases above background levels in proposed vegetation treatment units. The proposed actions will meet the requirements set within the purview of the Central Valley Regional Water Quality Board, and the monitoring plan required by the Central Valley Water Quality Board. Water quality measures used to control sediment production and transport and to reduce the potential for sediment increases above background levels will achieve the objective for the highest water quality consistent with maximum benefit to the people of the State.

Aquatic Wildlife

The spatial extent of the aquatic wildlife cumulative effects analysis area included the following subwatersheds: East Fork of Carmen Creek, West Fork of Carmen Creek, Carmen Creek, Fletcher Creek and Turner Canyon. This analysis area was chosen since it considers the riparian habitats associated with the proposed Saddle Project, and the overall conditions of the watershed that the mountain yellow-legged frog (MYLF) may inhabit. The temporal scale for future foreseeable actions extends from the present to 2020. While multiple reaches on National Forest land were surveyed and no MYLF were identified, similar surveys could not be conducted on private land. In addition, the report concluded that because there is suitable habitat present, there may be direct or indirect effects to unknown MYLF within the analysis area The Aquatics report concluded that the proposed activities of Alternative 1 in RHCAs, in conjunction with ongoing recreational activities and livestock grazing, may affect MYLF, if they are present. It determined that the meadow restoration activities of Alternative 1 may also pose short-term, minor effects to MYLF, although the protection measures restricting mechanical equipment access, and requiring specific implementation timing and site conditions will decrease potential effects to an insignificant level. In addition, if MLYF are detected in the project area, SMR 28 will limit project implementation to favorable times for MLYF species. In the long term, the Saddle Project in conjunction with the Carman watershed restoration projects will have beneficial effects by restoring meadow habitat.

Terrestrial Wildlife

Potential contributing factors to cumulative effects on wildlife were considered within a 31,999 acre Saddle Wildlife Analysis Area. FONSI element #1 FS Sensitive Terrestrial Wildlife summarizes the potential direct or indirect effects. None of the potential cumulative effects summarized below will be significant effects. The following information is available in detail in the Saddle Project Wildlife BE.

California spotted owl (CSO): The CSO cumulative effects analysis spatially included all Home Range Core Areas, Protected Activity Centers, Habitat Areas and suitable habitat within 1.5 miles of the proposed treatment units. Temporally, it analyzed between 1980 to 2012. There could be potential cumulatively beneficial effects to CSO habitat from prescribed fire on approximately 1,512 acres under Alternative 1 (Maybe 433 acres, Brumby 134 acres, and Saddle 946 acres). The cumulative effects from thinning will be a reduction of 542 acres of nesting habitat (Brumby 114, Saddle 429) converted to foraging habitat for Alternative 1. There will also be a potential beneficial cumulative effect from thinning by increasing prey visibility and CSO maneuverability of 801 acres (Brumby 134 acres, Saddle 667). There will not be a cumulative reduction of suitable CSO habitat.

Northern goshawk: The goshawk cumulative effects analysis spatially included all goshawk PACs and potentially suitable goshawk habitat that may be affected by proposed activities, and suitable habitat within 1.5 miles of the proposed units. Temporally, cumulative effects were analyzed between 1980 to 2012. Alternative 1 will reduce approximately 105 acres of goshawk nesting habitat as a result of meadow and aspen restoration activities. The Brumby Project will reduce the quality of goshawk habitat on 152 acres by thinning it to approximately 40% canopy cover with subsequent underburning. Under the Maybe Project, underburning will not change the CWHR classification, but is expected to improve foraging habitat on 778 acres by increasing the maneuverability of foraging goshawks and increase the prey detectability. The cumulative effect

of these three projects is a relatively small reduction in habitat quality (compared to the existing amount of suitable habitat) and a beneficial increase in foraging habitat.*American marten:* The marten cumulative effects analysis spatially included all potentially suitable habitat within 1 mile of the proposed units. Temporally, cumulative effects were analyzed between 1980 to 2012. Cumulatively, the Brumby Project will have minimal short term indirect effects to the quality of preferred marten habitat on 128 acres. The Maybe Project will add cumulatively to a short term reduction in the quality of preferred marten habitat within the Saddle Project analysis area of approximately 343 acres. In sum, there will be a cumulative reduction in the amount of preferred marten habitat of 24 acres with meadow restoration in Alternative 1; see FONSI element #1. There will be a cumulative short term reduction in the quality of preferred marten habitat on 1,511 acres. This effect will not be significant in the context of existing potentially suitable marten habitat on 31,999 acres of publically-owned and private land (in light of reasonably foreseeable future actions on private lands described above) within the cumulative effects analysis area.

Sierra Nevada red fox: The red fox cumulative effects analysis spatially included all potentially suitable habitat within in the 31,999-acre wildlife analysis below 6,800 feet. Temporally, cummulative effects were analyzed between 1990 to 2010 but also included historical logging projects before 1990. Large snags and down logs will be retained within the treatment units of the Saddle Project as well as other Forest Service projects implemented in the cumulative effects analysis area. The Brumby Project and the Maybe Project do not plan or are not expected to negatively affect any meadows within Sierra Nevada red fox habitat, and therefore will not add cumulative effects to the indirect effects on Sierra Nevada red fox habitat associated with Alternative 1, as previously disclosed under FONSI Element #1.

Wolverine: The wolverine cumulative effects analysis spatially included all potentially suitable habitat within in the 31,999-acre wildlife analysis area with elevations between 6,800 and 4,950 feet, including potentially suitable habitat 1 mile from proposed treatments. Temporally, the cumulative effects analysis considered vegetation and disturbance activities from 1980 to current known activities, and included reasonably foreseeable activities that are expected to continue (such as recreation) or are planned (private and USFS vegetation treatments) to approximately 2012. As previously discussed, Alternative 1 will have long-term beneficial effects on wolverine habitat as treated stands will be more fire resilient with a higher probability of persisting in the event of a wildfire. Similar effects are associated with treatments under the Borda and Maybe Projects as well as reasonably foreseeable future activities on private lands (as previously described). Hence, implementation of Alternative 1 is not expected to result in adverse cumulative effects on the wolverine.

Pallid bat, Townsend's big-eared bat, western red bat: The Forest Service's ongoing and planned thinning projects (Brumby and Maybe Projects) are all designed to retain large trees by thinning from below. Therefore, the thinning prescriptions will not add cumulatively to habitat loss, and will not disturb potential day roost sites for pallid bat. There are no caves, mines, or buildings planned for removal or decommissioning from these projects. For the Townsend's big-eared bat, since there are no expected direct or indirect effects to Townsend's big-eared bat, there will be no cumulative effects. For the western red bat, the proposed activities are not expected to have measurable direct, or indirect effects to western red bats or their habitat. Since there will be no direct or indirect effects there will be no cumulative effects on this species.

Management Indicator Species (MIS)

FONSI element #1: Beneficial and Adverse Impacts discloses the determinations by the MIS Report regarding cumulative effects.

Botanical Resources

As discussed in FONSI element #1, The Saddle Project Biological Evaluation for Sensitive Plants determined that there are known occurrences of the Forest Service (FS) Sensitive plants *Ivesia sericoleuca* (Plumas ivesia) and *Pyrrocoma lucida* (sticky pyrrocoma) within the Alternative 1 treatment areas that may be affected by Alternative 1. The Evaluation determined that because habitat for the following FS sensitive plants is present in treatment areas (although no occurrences of these species have been found during surveys of the project area), these species may be affected by Alternative 1: *Botrychium ascendens, B. crenulatum, B. lunaria, B. minganense, B. montanum, Bruchia bolanderi, Epilobium howellii, Fissidens aphelotaxifolius, Helodium blandowii, Hydrothyria venosa, Meesia triquetra, M. uliginosa*. The FS Sensitive Fungi *Cudonia monticola, Dendrocollybia racemosa, Phaeocollybia olivacea* may also be present in the treatment areas. Because potential habitat exists in the project area, the absence of these fungi cannot be determined during surveys since there is no way to determine whether the underground portion of the fungus (mycelia) is present. The geographical boundary for cumulative effects to the FS sensitive plant species is the eastside Tahoe National Forest because these species are rare but widely ranging within California or around the world. The temporal boundaries of the cumulative effects analysis range from the beginning of intensive land use in the project area (the early 1900s) to the foreseeable future projects. The Sensitive Plant BE evaluated projects and activities listed in the past, present and reasonably foreseeable future actions section above.

The Saddle Project Sensitive Plant BE found that *Botrychium ascendens, B. crenulatum, B. lunaria, B. minganense, B. montanum, Bruchia bolanderi, Epilobium howellii, Fissidens aphelotaxifolius, Helodium blandowii,* and *Hydrothyria* have a low potential to be cumulatively affected by Saddle Project. Although none are known to occur in current and future project areas including Billabong, Outback, Dingo, Kangaroo, Dinkum, Sagehen, Mix, or Transmission Line 132, there is a potential for future detections, although there is a low likelihood of being affected. The species *Meesia triquetra and Meesia uliginosa venosa* have a potential to be cumulatively affected, as may they occur adjacent the fens or riparian vegetation that are targeted by the Outback and Dingo Projects, and in allocations in those project areas. While they have not been detected in the Saddle Project area there is possibility that they exist adjacent to the meadows or riparian features targeted for restoration actions. The direct and indirect impacts to *Pyrrocoma lucida* and *Ivesia sericoleuca* in the Saddle Project and other projects are expected to be cumulatively minor and possibly beneficial because few are present in projects, and the watershed and meadow restoration actions planned to occur may provide more water to the occurrences.

Fire and Fuels

The area for the fire and fuels cumulative effects analysis is the project area and its relation to adjacent fuels projects. Approximately 71% of the acres proposed for treatment by Alternative 1 contribute to the Defensible Fuel Profile Zone (DFPZ).Ongoing and planned prescribed burning under the Borda Project, and follow up fuels treatments under Alternative 1, in conjunction with

those proposed on the Plumas NF and private land within the analysis area will lead to reduced fire effects, including decreased fire severity, damage to residual trees, suppression costs and post-fire rehabilitation needs. By expanding the DFPZ network that was initiated by the Borda Project and by HFQLG projects on the adjacent Plumas National Forest, implementation of Alternative 1will have cumulatively beneficial effects, including: connectivity with existing or planned DFPZs, improvements in the safety and suppression capabilities of firefighters, and reduction in the potential fire severity and extent on National Forest and private land within the analysis area. Under Alternative 1 the effectiveness of the mechanically-thinned units will last for more than 20 years. The contributions of the hand/mastication/grapple treated units in Alternative 1 will add to the efforts on adjacent private and public land to reduce fire severity and improve the safety and efficacy of fire suppression efforts, lasting approximately 13 to 15 years. After that time, another treatment will likely be needed in the majority of the proposed treatment units, to reduce conifer density and potential accumulations of hazardous fuels.

Vegetation

In recognition of the vital role that fire plays in forest ecosystems and the radical departure from the historic fire regime, the Saddle Project Vegetation Analysis area for cumulative effects on forest vegetation is delineated by prominent landscape features surrounding the project area that could profoundly affect wildfire behavior and act as barriers to fire spread. The analysis area is delineated as follows: to the west by the ridgeline that separates the Sierraville and Yuba River Ranger Districts, to the south and southeast by State Route 49, to the east by the Sierra Valley floor, and to the north by a ridgeline that separates the Plumas and Tahoe National Forests as it descends toward the Sierra Valley. The analysis area encompasses approximately 23,235 acres.

The cumulative effects of implementing Alternative 1, in conjunction with ongoing and foreseeable future forest management projects on National Forest and private land will result largely in beneficial cumulative effects on forest heterogeneity and resiliency throughout the analysis period, particularly where mechanical treatment and product removal is proposed. Together, the efforts to thin overstocked conifer stands on private and public land will increase forest resiliency against density-dependent mortality factors e.g., drought, insects, disease, parasites and fire. These efforts are particularly important in reducing the potential for widespread conifer losses across the landscape, under a changing climate. Group selection harvest will complement efforts by the Coyote NITMP on private land to introduce a new age class and initiate uneven aged structure to forest ecosystems, thereby increasing age/size class heterogeneity. The cumulative benefits of hand/mastication/grapple piling and burning, in conjunction with fuels reduction activities on all other ownerships are not as great as under mechanical/removal treatments, due to the lower harvest diameter limit. The harvest limit of ≤11” dbh reduces: the duration of treatment efficacy, and the ability to provide a favorable microclimate for the most vigorous and most fire resistant trees, through the removal of larger diameter, less fire-resistant species.

Air Quality

Prescribed underburning under the Borda Project is anticipated to be completed in 2012 and 2013 by the Sierraville Ranger District. It is anticipated that the Plumas National Forest will complete underburning and burning of piles under the Mabie Project through 2014. Prescribed burning follows strict timing and weather restrictions, will follow the Smoke Management Guidelines for Agricultural and Prescribed Burning contained in Title 17 of the California Code

of Regulations, and coordinates with NSAQMD and review of a daily spot weather forecast from the Redding Fire Weather office is prior to igniting any prescribed fire. Because of mandatory restrictive elements described in element 1 as well as project design measures there will be no cumulative effects to Air Quality due to the Saddle Project.

Application of Borate compounds

The analysis boundaries for the application of boron coincide with the vegetation management boundaries. The Saddle project will be implemented within the next 5 years. Cumulative impacts from borax treatment of cut stumps are not expected within the project area, as boron generally dissipates within one year or less of application. Past applications of boron to cut stumps, such as during previous timber harvest activities within the past 10 years will have been implemented at a rate similar to that proposed by the Saddle Project and potential effects will not be measurable at the present time, due to the dissipation of the product. No other projects associated with the HFQLG Pilot Project are currently planned within the analysis area. Adverse effects associated with borax application from future timber harvest activities on private land are not expected to be significant, since private landowners will be required to comply with all applicable county, state and label requirements.

(8) Degree to which the Action May Adversely Affect Properties Listed in or Eligible for the National Register of Historic Places, or May Cause Loss of Significant Scientific, Cultural or Historic Resources

Project implementation will have no impact on districts, sites, highways, structures, or significant scientific resources. A record search, field survey, resource inventory, and Heritage Resource Report (TNF02227/R2009051700013) have been completed for this project, under provisions of the Programmatic Agreement with the advisory council on Historic Preservation and the California State Historic Preservation Office (SHPO), in compliance with Section 106 of the National Historic Preservation Act. Assessment of historical and cultural resources within the project area indicates implementation of this project will not affect any heritage resource eligible for listing in the National Register of Historic Places, nor will it cause loss or destruction of any significant cultural or historical resources. Known prehistoric or historic sites will be protected through flag and avoidance during project implementation. If any new heritage resources are discovered during project implementation, operations will cease in the area of new discovery until adequate protection measures were agreed upon with SHPO.

(9) The degree to which the action may adversely affect an endangered or threatened species or its habitat that has been determined to be critical under the Endangered Species Act of 1973

Threatened and endangered species (T&E): The Fish and Wildlife Service is contacted every 90 days to obtain a current list of threatened, endangered, proposed, and candidate species that may be present on the Tahoe National Forest. The most recent list was dated April 25, 2011 and is available for review at the Sierraville District Office. Biological Assessments (BAs) document the assessment of the potential effects of this project on federally listed threatened or endangered aquatic, plant and terrestrial wildlife species and their habitat. In the Saddle Project Plant BE/BA, the Eastside botanist determined that there are no direct, indirect, or cumulative effects to T&E plant species anticipated for this project because none are known to occur on the Tahoe

National Forest at this time. In the Saddle Project Wildlife and General Aquatic Resource BE/BAs, the Wildlife and Fisheries/Aquatics Biologists determined that the Saddle Project Alternative 1 will not affect the T&E species valley elderberry longhorn beetle, California red-legged frog, mountain yellow-legged frog (Federal Candidate species *Rana sierra*) or Lahontan cutthroat trout or their designated critical habitat because the project is outside the range of the species or due to a lack of suitable habitat.

(10) Whether the Action Threatens a Violation of Federal, State, or Local Law or Requirements Imposed for the Protection of the Environment

The Environmental Assessment, its appendices and documents incorporated by reference and available upon request consider the best available science to insure the scientific integrity of the discussions and analyses. Specifically, the EA and its associated documents identify methods used, reference scientific sources relied on, discuss responsible opposing views, and disclose incomplete or unavailable information per 40 CFR, 1502.9 (b), 1502.22, 1502.24.

This project complies with the Clean Water Act through use of "Best Management Practices" designed to minimize or prevent the discharge of both point and non-point source pollutants from Forest roads, developments and activities. Under the Clean Water Act regulations, the Forest Service is required to obtain permits from the Central Valley Regional Water Quality Control Board (RWQCB). The Forest Service is working with the RWQCB to secure the appropriate permit(s) for this project, as discussed in Section III of this element below.

I. National Forest Management Act

Alternative 1 is fully consistent with the management direction, including Standards and Guidelines, in the Tahoe National Forest Land and Resource Management Plan (LRMP, 1990), as amended by the HFQLG FEIS ROD (1999) and the HFQLG FSEIS ROD (2003), and the 2004 SNFPA FSEIS ROD (2004) and Sierra Nevada Forests Management Indicator Species Amendment (2007). Alternative 1 is designed to implement HFQLG Forest Recovery Pilot Project objectives. The LRMP and its amendments were developed in accordance with the National Management Act of 1976 (16 USC 1604 (i) and 36 CFR 219.10 (e)).

The LRMP Management Areas that apply to the Saddle Project are:

- MA 007 – Calpine
- MA 001 – Carman
- MA 008 – Chapman
- MA 013 – Forty-Niner

The primary LRMP resource management goals and objectives that guide the proposal include:

1. Achievement of the goals and objectives of the Herger-Feinstein Quincy Library Group Forest Recovery Act (1998) and the HFQLG Forest Recovery Pilot Project. (2004 SNFPA ROD, page 11)

Alternative 1 is designed to be consistent with the management direction for the HFQLG Pilot Project defined in the Sierra Nevada Forest Plan Amendment (SNFPA) FSEIS ROD (2004) on pages 66 through 69. It will contribute toward achievement of the goals and objectives of the

HFQLG Pilot Project, including implementation of resource management activities and riparian management of the HFQLG Forest Recovery Act.

2. Protecting old forest ecosystems and associated species. (2004 SNFPA ROD, page 31)

The old forest conservation goals and strategies in the Tahoe National Forest LRMP guide management to increase the frequency of large trees, and increase the structural diversity of vegetation, while protecting, increasing and perpetuating desired conditions of old forest ecosystems and conserving species associated with these systems.

The silvicultural prescriptions under Alternative 1 follow 2004 SNFPA ROD, and emphasize establishing structural diversity in both DFPZ and ITS areas. The Radial thinning prescription will accelerate the development of large size trees, and the variable thinning will establish and enhance structural diversity in otherwise second-growth, fairly homogenous stands. No trees greater than 30" dbh will be removed under Alternative 1, and no changes in CWHR size classifications are expected, with the exception of units in which removal of the smallest trees may raise the average tree size. For example, in thinning units characterized by predominantly small diameter trees, removal of the smallest trees is expected to raise the average tree size from CWHR size class 3 to size class 4, and in meadow enhancement units, the removal of the smaller diameter trees is expected to raise the average residual tree size from CWHR size class 4 to 5. Approximately 75 acres of Alternative 1 unit acres are in areas designated as CWHR eastside pine size class 6. Of these, approximately 57 unit acres have a dbh cut limit of 30", and the remainder are hand thinning units. All acres are in land allocation Threat Zones (under the 2004 SNFPA ROD), and all but 0.0.5 acres are within the DFPZ. Treating these units to prevent adverse effects of wildfire to the community of Calpine by establishing some of the suppression advantages of DFPZs is a priority for these units in addition to the benefits of emphasizing structural heterogeneity. More information about this CWHR classification is available in the Saddle Project Forest Vegetation Analysis Report and the Saddle Project CWHR and down wood and snag information Report (each incorporated by reference and available upon request).

3. Providing the wildlife habitat and other ecological conditions necessary to maintain well-distributed viable populations of Management Indicator Species (MIS) in the project area and bioregional scale, and maintain diversity of plants and animals (Tahoe National Forest LRMP as amended by the Sierra Nevada Forests Management Indicator Species Amendment (SNF MIS Amendment) Record of Decision (USDA December 2007)).

The MIS Reports determined that Project-Level habitat impacts on any MIS will not be significant and will not contribute to Bioregional-Scale trends for any MIS. Summaries for each habitat-population trend are in FONSI element 1 Beneficial and Adverse Impacts, and details are presented in the Saddle Project MIS Reports, which are incorporated by reference.

4. Protecting aquatic, riparian and meadow ecosystems and associated species. (2004 SNFPA ROD, pages 31 and 67)

The Proposed Action (Alternative 1) is designed to protect and improve plant and animal diversity in the aquatic, riparian and meadow ecosystems. It includes measures to protect riparian resources, snags, woody debris, and unique and sensitive plants, and sensitive wildlife. Meadow and riparian communities will be restored, and fuel hazards will be reduced in RHCAs. EA *Appendix C* discusses how the Proposed Actions meet the Riparian Management Objectives as summarized in Appendix L of the HFQLG-FEIS (1999).

5. Reducing the threat to communities and wildlife habitat from large, severe wildfires. (2004 SNFPA ROD, pages 34 and 35)

The purpose and need of the Saddle Project is tied closely to the need to reduce hazardous fuels and facilitate wildland fire suppression efforts in and around the community of Calpine, and to increase the safety and effectiveness of fire suppression efforts while adding continuity to the previously constructed nearby DFPZ treatments. The thinning prescriptions and fuel management actions under Alternative 1 will decrease forest vegetation density and fuel levels to allow for the safe application of prescribed fire with acceptable levels of fire-related tree mortality. Under the Proposed Action (Alternative 1), approximately 3,349 acres will be treated with vegetation and/or fuels management prescriptions within the DFPZ network, and 2,693 acres will be treated within the Calpine Wildland Urban Interface (WUI). Alternative 1 emphasizes the strategic placement DFPZ treatments to more effectively provide effective wildfire suppression capabilities.

6. Maintaining visual quality objectives for the Carman, Calpine, Chapman and Forty-Niner Management Areas. (LRMP, page V-153)

Visual Quality Objectives (VQOs) in the Carman Management Area (MA) require partial retention as viewed for State Route 89 but emphasize watershed restoration and habitat improvement considerations throughout the MA. Calpine MA VQOs require retention to preserve the existing scenic quality and the character of its scenic backdrop, particularly as seen from State Route 89. Chapman MA VQOs require partial retention as viewed from State Route 49 but permit modification in the Saddle Project area. Forty-Niner requires retention as viewed from State Route 49 but permits partial retention in the small segment (12 acres) of the Saddle Project area.

Marking guidelines for the Proposed Action (available in the Forest Vegetation Analysis, which is incorporated by reference and available upon request) pay special consideration to preserve or enhance the character of its scenic backdrop in retention and partial retention areas. Prescriptions under the Proposed Action (Alternative 1) along State Route 89 and near the community of Calpine are carefully designed to ensure VQO requirements are met while achieving the project purpose and needs of creating a safer fire suppression environment and improving forest ecosystem resiliency, health and heterogeneity.

7. Partners In Flight North American Landbird Conservation Plan.

Under the National Forest Management Act (NFMA), the Forest Service is directed to, "provide for diversity of plant and animal communities based on the suitability and capability of the specific land area in order to meet overall multiple-use objectives." (P.L. 94-588, Sec 6 (g) (3) (B)). The January 2000 USDA Forest Service (FS) Landbird Conservation Strategic Plan, followed by Executive Order 13186 in 2001, in addition to the Partners in Flight (PIF) specific habitat Conservation Plans for birds and the January 2004 PIF North American Landbird Conservation Plan all reference goals and objectives for integrating bird conservation into forest management and planning. Opportunities to promote conservation of migratory birds and their habitats in the project area were considered during development and design of the Saddle project, and the project completed a Migratory Landbird Conservation Report to assess the effects of the Saddle Project on migratory birds. This report is incorporated by reference and available upon request.

8. Vegetation Management Requirements

The Proposed Action meets the National Forest Management Act (NFMA) requirements detailed in FSM 1921.12 – Vegetation Management Requirements from NFMA section 1921.12a – Timber Management Requirements. A responsible official may authorize project and activity decisions on National Forest System lands to harvest timber only where:

A. Soil, slope, or other watershed conditions will not be irreversibly damaged.

Alternative 1 includes resource protection measures and SMRs including BMPs, contract provisions, and other project specific design features to protect riparian areas, minimize soil erosion and compaction. Multiple watershed restoration actions will improve the existing condition of the watersheds at the project level. Road repair and maintenance has been designed to improve watershed conditions, and temporary roads will be closed and decommissioned after use.

B. There is assurance that the lands can be adequately restocked within five years after final regeneration harvest (FSM 1921.12g).

Group selection harvest on approximately 54 acres under Alternative 1 are the only areas where restocking applies. These group selection units will be implemented to promote uneven-aged management and diversity in stands. The district silviculturist has advised that these units will be adequately restocked from a combination of planting and natural regeneration within 5 years following harvest. Aspen restoration treatments have a purpose of restoring the health and vigor of aspen stands and improving associated wildlife habitat, and meadow restoration treatments have a purpose of restoring riparian ecological systems to the areas invaded by lodgepole pines due to past management practices and fire suppression.

C. Streams, streambanks, shorelines, lakes, wetlands, and other bodies of water are protected from detrimental changes in water temperatures, blockages of water courses, and deposits of sediment where harvests are likely to seriously and adversely affect water conditions or fish habitat.

Alternative 1 is designed to meet the Riparian Management Objectives (RMOs) on page L-4 of the HFQLG-FEIS (1999), as summarized in the Riparian RHCA Treatment Summary (EA *Appendix C*). Resource Protection Measures and Standard Management Requirements (EA *Appendix B*) are designed to achieve RMOs, and all proposed treatments in RHCAs are designed to minimize disturbance of riparian vegetation, soils and other aquatic habitat elements.

D. The harvesting system to be used is not selected primarily because it will give the greatest dollar return or the greatest unit output of timber.

The harvesting systems proposed under the Saddle Project Proposed Action were selected to meet multiple resource objectives, including the objectives of the HFQLG Pilot Project. Specifically, the Need for Action is to: Create a safer, more effective fire suppression environment and connect the existing shaded fuelbreaks in and around the Saddle Project Area, improve forest ecosystem resiliency and health, to restore forest heterogeneity, to restore black oak, and quaking aspen from conifer encroachment, to restore the hydrologic connectivity and species composition of meadows, and to improve site-specific watershed conditions. Although

economic objectives are part of the Purpose for Action, harvesting systems were not selected primarily to give the greatest dollar return or the greatest unit output of timber.

E. A Responsible Official may authorize projects and activities on NFS lands using cutting methods such as clearcutting, seed tree cutting, shelterwood cutting, and other cuts designed to regenerate an even-aged stand of timber, only where certain conditions defined in 16 U.S.C. 1604 (g)(3)(F) are met.

1. For clearcutting, it is the optimum method; or where seed tree, shelterwood, and other cuts are determined to be appropriate to meeting the objectives and requirements of the relevant plan (16 U.S.C. 1604 (g)(3)(F)(i)).

- No clearcutting, seed tree or shelterwood cuts are proposed by Alternative 1, since even-aged timber management is not part of the Proposed Action.

2. The interdisciplinary review has been completed and the potential environmental, biological, aesthetic, engineering, and economic impacts have been assessed on each advertised sale area and the cutting methods are consistent with the multiple use of the general area (16 U.S.C. 1604 (g)(3)(F)(ii)).

- The ID Team has reviewed the Saddle Project, as documented in supporting analyses (incorporated by reference and available upon request), and has assessed the environmental impacts of the proposal. Standard road maintenance will be needed and specified in the contract. An economic analysis of the project indicates that the project will contribute to jobs and wages that will contribute to the community stability of the local rural economy. Thinning from below, group selection, and aspen restoration are consistent with the multiple use of the general area (Calpine, Carman, Chapman, Forty-Niner Management Areas) that is outlined in the Tahoe National Forest LRMP as amended. The proposed silvicultural treatments are consistent with the forest plan standards and guidelines.

3. Cut blocks, patches, or strips are shaped and blended to the extent practicable with the natural terrain (16 U.S.C. 1604 (g)(3)(F)(iii)).

- The group selection harvest proposed by Alternative 1 will involve small forest openings less than 2 acres in size, and will be implemented as part of an uneven-aged management prescription. Please see "Maintaining visual quality objectives for the Carman, Calpine, Chapman and Forty-Niner Management Areas" above for more information.

4. Cuts are carried out according to the maximum size limit requirements for areas to be cut during one harvest operation (FSM 1921.12e).

- Group selection harvest will create forest openings less than 2 acres in size, as authorized by the 2004 SNFPA ROD.

5. Timber cuts are carried out in a manner consistent with the protection of soil, watershed, fish, wildlife, recreation, esthetic resources, cultural and historic resources, and the regeneration of timber resources.

- The ID Team has developed Resource Protection Measures and Standard Management Requirements, including BMPs, which will be incorporated into project Timber Sale or Service Contracts to protect the environment and assure that any potential impacts are minimized (See EA *Appendix B* Saddle Project SMRs).

- *Weeds:* The Weed Risk Assessment (incorporated by reference and available upon request) concludes that there is a low risk of introducing "A" and "B" rated noxious weeds into the Saddle Project area if SMRs and resource protection measures, such as the requirement for clean equipment, are followed (See EA *Appendix B* SMRs 23 and 24), and if the temporarily-used existing roads and roadbeds are closed and obliterated promptly after project implementation.

The Weed Risk Assessment states that the "C" rated weeds (wooly mullein, cheatgrass and bull thistle) are so widespread the Forest Service does not endorse state or county-funded eradication or containment efforts except in nurseries or seed lots and perhaps new isolated occurrences. However, the "shrub patch mitigation" (SMRs 23 and 24) is designed to curb the potential to spread of "C" rated nonnative cheatgrass by reducing the prevalence of underburning in the shrub patches that are most prone to cheatgrass invasion. It is expected that the shrub patch mitigation will reduce the risk of spreading "C" rated cheatgrass from high to moderate. The potential to spread of "C" rated non-natives, such as bull thistle and woolly mullein, will also be moderate, but these weeds are known to be less competitive with native vegetation than cheatgrass.

- *Tree Disease:* Alternative 1 will cause an unnaturally large number of freshly cut stumps, which increases the potential avenue of spread of Annosus root disease via interconnected roots (personal communication, Woodruff, 2008). Application of borax to cut conifer stumps ≥ 14" dbh will create a barrier that minimizes the potential for spores of the fungus *Heterobasidion annosum* to colonize freshly cut stumps.

6. Stands of trees are harvested according to requirements for culmination of mean annual increment of growth (16 U.S.C. 1604 (m); FSM 1921.12f; FSH 1909.12, ch. 60).

- The culmination of mean annual increment requirements apply only to even-aged management at the time of regeneration harvest. Alternative 1 does not include regeneration harvest. The group selection harvest under Alternative 1 consists of small forest openings less than 2 acres in size, and will be implemented as part of an uneven-aged management prescription.

II. HFQLG Riparian Management Objectives

The Final Environmental Impact Statement for the Herger-Feinstein Quincy Library Group Forest Recovery Act (FEIS-HFQLG-FRA) Record of Decision and SNFPA ROD (2004), which directs forest management within the HFQLG Pilot Project Area, requires the adoption of riparian management direction as described by the Scientific Analysis Team's (SAT) Guidelines. Specifically, the HFQLG-EIS presents 10 Riparian Management Objectives (RMOs) that may not be adversely affected by any planned resource management activity. The RHCA summary determined that the Saddle Project design, in combination with standard management requirements, resource protection measures and best management practices, will achieve each RMO. *Appendix C* (RHCA Treatment Summary) contains a detailed assessment of how proposed treatments within RHCAs respond to the 10 RMOs identified on pages L-4 through L-5 in Appendix L of the HFQLG FEIS.

III. Water Quality Control (Basin Plan)

The Saddle Project has incorporated management requirements and monitoring to meet the water quality objectives for beneficial use as established by the Central Valley Regional Water Quality

Control Board in the Water Quality Control Plan for the Central Valley Regions, and the Federal Clean Water Act. It will comply with the Water Quality Objectives and Prohibitions contained in the Basin Plan and will meet the requirements for obtaining a Timber Harvest Waiver. It is eligible for the applicable waiver because:

1) The EA, associated appendices and documents incorporated by reference are the product of an interdisciplinary team's review of the project. Best Management Practices and additional control measures were developed during the review process to assure compliance with water quality control plans.
2) The IDT conducted a Cumulative Watershed Effects (CWE) assessment (incorporated by reference and summarized in FONSI element #7).
3) The proponent will develop a Water Quality Monitoring Plan including Forensic Monitoring in the Fletcher Creek and East Fork Carmen Creek watersheds and Effectiveness Monitoring during permit application to specify the actions that will be taken during and after implementation of the proposed actions to ensure that water quality objectives are met.
4) The EA is consistent with NEPA requirements for public comment.
5) Beneficial uses will be maintained and will achieve the highest water quality consistent with maximum benefit to the people of the State. The water quality objectives for beneficial uses that could potentially be affected by the Saddle Project include sediment, temperature and turbidity, also to a lesser degree pesticides (Boron) and oil and grease. Best Management Practices will be implemented, and extensive Standard Management Requirements and Resource Protection Measures have been created to prevent impacts to beneficial uses (see EA Appendix B). Expanded discussions on temperature, aquatic habitat and sediment are in the CWE assessment and EA Appendix C: Saddle Project - RHCA Treatment Summary, under the Riparian Management Objectives.

IV. Title 17 of the California Code of Regulations

Saddle Project post-harvest fuels management will be guided by the Smoke Management Guidelines for Agricultural and Prescribed Burning contained in Title 17 of the California Code of Regulations. Burn plans will be designed and all fuel reduction burning will be implemented in a way to minimize particulate emissions. The prescribed fire planner will coordinate with the local Air Quality Coordinator to design an appropriate smoke management plan. Burning permits will be acquired from the Northern Sierra Air Quality Management District. The Air Quality District will determine the days when burning is allowed. The California Air Resources Board (CARB) provides daily information on "burn" or "no burn" conditions. Prescribed fire implementation staff will coordinate daily and seasonally with other burning permittees both inside and outside the forest boundary to help meet air quality standards. Because of the mitigation measures applied, impacts on air quality are expected to be minimal.

ADMINISTRATIVE REVIEW OR APPEAL OPPORTUNITIES

A pre-decisional objection opportunity was offered for this project under 36 CFR 218. No objections were submitted.

IMPLEMENTATION DATE

The project may be implemented immediately upon the signature of this Decision Notice.

Contact Person

For additional information concerning this project, please contact: Karie Wiltshire, Project Coordinator, Sierraville Ranger District, P.O. Box 95, Sierraville, CA 96126, phone: (530) 994-3401 ext. 6680, email: kwiltshire@fs.fed.us

_____ _____

TOM QUINN Date:

Forest Supervisor

Tahoe National Forest

DECISION NOTICE

And

FINDING OF NO SIGNIFICANT IMPACT

CARMAN CREEK WATERSHED RESTORATION PROJECT

PHASE II

USDA Forest Service, Tahoe National Forest

Sierraville Ranger District
Sierra County

Decision and Reasons for the Decision

I have completed review of the proposed Carman Creek Watershed Restoration Project, Phase II (Carman II) Environmental Assessment (EA). The project area is located on the Sierraville Ranger District of the Tahoe National Forest, in Sierra County, in T21N, R13E, Sections 1, 2, 11, 12; T21N, R14E, Section 5; T22N, R13E Sections 26, 35, 36; and T22N, R14E, Sections 20, 31, 32.

The purpose of this project is to: 1) reduce or stop active meadow and stream erosion; 2) restore and improve fish and wildlife habitat, including riparian ecosystems; 3) reestablish floodplain function, e.g., prevent sediment movement downstream into the Feather River, and dissipate flood flow energy; 4) restore the water table in meadows to improve the health and diversity of meadow vegetation; 5) increase ground water storage; and 6) increase forage for both wildlife and livestock.

Decision

It is my decision to select Alternative 1, the Proposed Action, which is fully described in the EA on pages 3-6. After considering the environmental effects described in the EA, I have determined that these actions will not have a significant effect on the quality of the human environment, considering the context and intensity of impacts (40 CFR 1508.27). Implementation of Alternative 1 will remove features that are impeding the natural flow of water in various locations and will restore the flow back to the original channels. It includes the removal of small portions of existing railroad grade, the construction of a rocked, low-water crossing or installation of culverts, and the closure of downcut channels using a series of plugs and ponds to re-water the meadow.

This alternative best meets the Purpose and Need for the project described in the EA on page 2. Management requirements are incorporated into the design of Alternative 1 to reduce and avoid adverse environmental effects. These requirements are described in the EA on page 5 and in Appendix A: Summary of Best Management Practices and Management Requirements/Mitigation. Management requirements necessary for the protection of sensitive resources include:

- Minimize disturbance to the sensitive plant *Pyrrocoma lucida* in Site #2, as directed by the East Zone Botanist who should be present during project implementation.
- Implement measures to protect the fen in Site #1 from disturbance that might dewater the fen.
- Avoid disturbances to breeding activities and habitat of T&E, or sensitive wildlife species with Limited Operating Periods (LOPs) to be implemented around nests, dens, roost sites, and other areas of concentrated use by these species when present. A LOP constitutes a period during which project activities will not occur and is enforced in project implementation contracts. The LOP for greater sandhill crane from April 1st to August 1st when noise generating activities occur within Sites 1 and 2 may be modified by the District Wildlife Biologist, if surveys determine nesting would not be affected within ¼ mile of the proposed activities.
- Exclude livestock from treated areas, as needed until they are revegetated.

Reasons for the Decision

The reasons for my decision are based on the purpose and need to improve the current condition of the Carman Creek watershed, which is currently in a degraded state. By reducing or halting active meadow erosion and reestablishing the original floodplain, there will be an improvement in fish and wildlife habitat, and an improvement in meadow vegetative conditions. The current downward trends can be reversed to produce a more sustainable, diverse and healthy plant community.

Scoping and Public Involvement

The proposed action first appeared in the Tahoe National Forest Schedule of Proposed Actions (SOPA) during the second quarter (July) of 2006. On November 13, 2006, eleven scoping letters were mailed out to potentially interested individuals, groups and agencies. A public notice announcing the project proposal was published in the *Mountain Messenger,* the newspaper of record on November 16, 2006. Internal scoping was accomplished through the use of an Interdisciplinary Team of resource specialists, who analyzed the proposed action and determined the direct, indirect, and cumulative effects of the proposal. The ID Team consisted of an archaeologist, wildlife biologist, botanist, fisheries/amphibian biologist, soil scientist, and hydrologist. External scoping was completed through communications with known interested publics and through public notification. The Forest Service did not receive replies (written or otherwise) to the project scoping letter, and no comments were received nor were any issues or alternatives identified through public scoping.

Once the EA was completed, a public notice was posted on November 15, 2007 in the *Mountain Messenger.* No comments were received during the 30-day comment period.

Alternatives Considered

The Proposed Action and No Action alternative were considered and analyzed in the EA. The Proposed Action would improve watershed condition at 7 sites in the Carman Creek watershed. Under the No Action alternative, the Forest Service would not implement the proposed action in

this area and at this time. No alternatives were considered but eliminated from detailed study in the analysis.

Finding of No Significant Impact

In 1978, the Council on Environmental Quality published regulations for implementing the National Environmental Policy Act (NEPA). These regulations (40 CFR Parts 1500-1508) include a definition of "significant" as used in NEPA. The elements of this definition are critical to reducing paperwork through use of a finding of no significant impact (FONSI) when an action will not have a significant effect on the human environment, and is therefore exempt from requirements to prepare an environmental impact statement. Significance as used in NEPA requires considerations of both context and ten elements of intensity as follows.

(a) Context: Significance of an action must be analyzed in several contexts such as society as a whole (human, national), the affected region, affected interests, and the locality. Significance varies with setting. In the case of a site-specific action, significance would usually depend upon the effects in the locale rather than in the world as a whole. Both short- and long-term effects are relevant.

The local context of the proposed action is limited to the northeastern portion of the Tahoe National Forest on the Sierraville Ranger District, as described on pages 2-5, in locations shown on the project map. The project sites occur over the 15,000 acre watershed, but are individually relatively small. The proposed action focuses on completing the remainder of watershed restoration work that was initiated in 1997. The remaining restoration work was identified in the Carman Creek Watershed Assessment and Restoration Plan and consists of primarily:

- Closure of existing downcut channels using a series of plugs and ponds to re-water the meadow
- Removal of sections of railroad grade to open up the floodplains and/or to reconnect drainages.
- Improvements in stream crossings to reduce active sources of erosion.

In the context of seasonality and duration of activities, the analyses prepared in support of the EA/Initial Study/Proposed Mitigated Negative Declaration (EA/IS/PMND) indicate that the Proposed Action poses no significant short- or long-term effects. These supporting documents include the: *Watershed Report for Environmental Assessment of Carman Creek Watershed Restoration Phase II – Hydrology & Soils* (Watershed Report), *Carman II Restoration Project, Tahoe National Forest, Sierraville Ranger District-General Aquatic Resources: Biological Evaluation For Fish, Amphibians, Reptiles, and Their Habitat* (Aquatics BE), *Tahoe National Forest Sensitive Plant Biological Evaluation* and *Weed Risk Assessment* (Plant BE and Weed Risk Assessment), and *Biological Evaluation and Management Indicator Species Report - Birds, Mammals, Reptiles, Invertebrates* (Wildlife Report). These analyses are hereby incorporated by reference and available for review at the Sierraville Ranger District and the Central Valley Regional Water Quality Control Board offices. An evaluation of the effects on Heritage Resources has also been completed.

Short-term soil disturbance from construction of plugs and ponds, removal of sections of railroad grades and construction of a rocked, low-water crossing or installation of culverts will result in short- and long-term benefits. The potential for short-term sediment movement and transport

from disturbed areas will be low to moderate from meadow re-watering (plug and pond installation), due to the nature and location of disturbances, erosion control measures, and re-vegetation work. Although some sediment deposition will occur while flow patterns reestablish themselves, channel depths will most likely remain shallow and sediment quantities low. The banks of remnant channels will probably resist erosion and down cutting. After revegetation in 1 to 3 years, potential for sediment transport from these areas will be very low. In areas where railroad grade segments will be removed to facilitate stream re-connection there may be some minor stream bed scour across the disturbed areas but the amount of sediment movement will be minor and no significant effects to water quality are anticipated. Stream crossing improvements will reduce active sources of erosion and sedimentation.

In the long-term, plugging incised channels will stop and reverse the dewatering of the water table, and stop the active erosion at head-cuts on the tributaries to the main channel. Alternative 1 will return flow back onto the meadow surface, which will re-irrigate these meadows and allow high flows to disperse across the floodplain. Removal of sections of railroad gradewill reconnect the meadow with the hill slope. Together, these actions will increase water supply on the meadow surface and maintain a high water table longer into the summer and enhance meadow and riparian habitat.

(b) Intensity: Refers to the severity of impact: The following should be considered in evaluating intensity:

1. **Impacts both beneficial and adverse. A significant effect may exist even if the Federal agency believes that on balance the effect will be beneficial.**

Effects determinations are detailed in the supporting analyses, which considered the best available science. All analyses prepared in support of this document considered both beneficial and adverse effects, but all effects determinations were made on the basis of only adverse effects. Beneficial effects were not used in this analysis or supporting analyses to offset or compensate for adverse effects. Some potential adverse effects may include:

- Short-term disturbance of soil from removal of railroad grades, construction of plugs and ponds, and installation of low-water crossings or culverts
- Short-term increase in sediment in the hydrologic system during excavation work and a temporary loss of vegetation.
- Loss of individual sensitive plants

According to the Watershed Report, the Aquatics and Plant BEs and the Wildlife Report, none of the adverse effects of this project will be significant, even when considered separately from any beneficial effects that may occur in conjunction with adverse effects. Scientific Analysis Team (SAT) guidelines outlined in the 1999 HFQLG FEIS ROD, BMPs, and Management Requirements and Mitigation Measures have been incorporated into the proposed action to minimize or eliminate potential adverse impacts caused by watershed restoration activities and are outlined in detail in the Summary of Best Management Practices & Management Requirements/Mitigation in Appendix A. Detailed discussions on the effects of Alternative 1 on wetlands are found in the Watershed Report. The Watershed Report finds that no significant watershed effects are expected from implementation of Alternative 1.

These findings are summarized in FONSI Element #3 and #7 below. The effects on aquatic, plant and terrestrial wildlife species are discussed in detail in the BEs listed above. These supporting documents find that implementation of Alternative 1 will have no significant effects. These findings are summarized in FONSI Element #7, #9 and #10 below. Effects on Cultural Resources are detailed under FONSI Element #3 and #8, below.

2. The degree to which the proposed action affects public health or safety.

The proposed action will have no adverse effect on public health and safety. OSHA regulations that apply to similar construction and decommissioning operations will help prevent accidents and injuries in the course of watershed restoration operations.

3. Unique characteristics of the geographic area such as proximity to historic or cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas.

The project area does not contain any parklands, prime farmlands, wild and scenic rivers, or ecologically critical areas. However, the project area includes cultural and historic resources (heritage resources) and wetlands.

Heritage Resources

The Upper Carman and Folchi Creek watersheds are rich in cultural resources. Proposed sites for plug and pond construction have been located to avoid any effects on cultural and historic resources that are eligible for the National Register of Historic Places. Alternative 1 includes leveling sections of a historic railroad grade. The railroad grades in the project area were surveyed and the entire system evaluated. Findings from that evaluation determined the grades were not eligible for the National Register of Historic Places. The Forest Service has consulted with the State Historic Preservation Office regarding these railroad grades. All other aspects of the proposed action have been designed to avoid known cultural resource sites, and provisions are made to protect any newly discovered sites, as described in the Proposed Action, Resource Protection Measure #4 on page 5. As a result, that there will be no direct or indirect effects to cultural resources eligible for inclusion in the National Register of Historic Places. The Proposed Action will fully comply with the National Historic Preservation Act, related implementing procedures, and all other laws pertaining to heritage resources.

Wetlands

The primary purpose of the proposed action is to restore and rehabilitate wetlands that are currently in a degraded condition. Therefore, by design, the proposed activities will occur within wetlands and stream corridors, as described above under Context.

<u>Meadow Re-watering using Plug and Pond Technique</u>

Implementation of the Proposed Action will divert water out of existing, incised channels and into remnant channels on the meadow surface in meadows proposed for this treatment. The current channel will be blocked with a series of plugs constructed from material excavated along the existing channel. Borrow sites for the plug material will become ponds. Putting

streams back onto the meadow surface will re-irrigate these meadows and allow high flows to disperse across the floodplain. Plugging incised channels will stop and reverse the dewatering of the water table, reconnect the meadow with the hill slope, and stop the active erosion at head-cuts on the tributaries to the main channel. Together, these actions will increase water supply on the meadow surface and maintain a high water table longer into the summer.

Ground disturbance in and near the existing main channel will occur during construction of the plugs and ponds, as portions of the existing channel will be excavated and either buried or flooded (plugged or ponded). Additional areas adjacent to the current channel will be excavated as a borrow source to get the fill for the plugs. These areas will become ponds. Livestock will be excluded from area treated areas as needed until they are revegetated.

The potential for short-term sediment movement and transport from disturbed areas will be low to moderate due to the nature and location of disturbances, erosion control measures, and re-vegetation work. Most disturbed areas will not experience active channel flow after implementing this alternative. There will be shallow flood flow around or across some of the areas during peak spring runoff. Revegetation will take 1-3 years. After revegetation, potential for sediment transport from these areas will be very low. Planting of native willows and other native riparian vegetation will stabilize disturbed areas and reduce erosion potential.

The water from the main channel will be diverted into remnant channels on the meadow surface. The remnant channels currently run some amount of water each spring. Annual water flow in some of the remnant channels has kept the riparian vegetation in good health and has shown that the channels can handle flowing water. Because the flows in the remnant channels will increase, some scouring might occur, as well as minor channel realignment, while flow patterns reestablish themselves. Some sediment deposition will occur during this process. Increased water availability and will stimulate rapid vegetative growth. Channel depths will most likely remain shallow and sediment quantities low while the system reestablished its own equilibrium.

The degree to which this proposal affected vegetative composition will depend on the extent to which it succeeded in raising water tables, and also on how long water tables remained high through the summer. As meadows recovered over time, riparian vegetation will remain green longer into the summer and provide more nutritious forage later in the season. Because remnant channels are currently vegetated with willows/grasses/sedges and are not incised, the banks of these channels will probably resist erosion and down cutting.

Railroad Grade Removal and Reconnecting Stream Segments

The Proposed Action will also remove railroad grades that interfere with proper functioning of the floodplain, have diverted streams or are concentrating water.

Ground disturbance will result from the removal or modification of railroad grades and other linear features, which obstruct natural water flow on the surface of the meadows and upland areas. Many sections of railroad grade that are proposed for removal are not in areas where water will flow. Therefore, the disturbed areas can be stabilized by seeding and mulching. In areas where railroad grade segments will be removed to facilitate re-connection of streams there may be some minor stream bed scour across the disturbed areas. However, the amount

of sediment movement will be minor and no significant effects to water quality are anticipated.

The proposed action includes management requirements that will reduce and minimize riparian impacts, such that implementation of project activities will not pose significant impacts to wetlands within the project area. Proposed project activities will result in long-term beneficial impacts to wetlands and riparian ecosystems.

4. The degree to which the effects on the quality of the human environment are likely to be highly controversial.

The effects of this project on the quality of the human environment are not likely to be highly controversial. No responses were received regarding this proposal during project scoping period, which included a legal notice announcing the proposal, and scoping letters to potentially interested individuals, groups and agencies. The project is designed to improve watershed conditions with limited adverse ground disturbance. This has resulted in a focused proposed action that is not likely to be highly controversial. No significant effects to the quality of the human environment are expected from implementing the proposed action based on: the analysis of effects by the ID Team, compliance with Basin Plan water quality objectives, and compliance with the permitting requirements of the Army Corps of Engineers.

5. Degree to which the possible effects on the human environment are highly uncertain or involve unique or unknown risks.

Some uncertainty exists regarding the removal of barriers that have changed the natural flow of water in Carman and Folchi Creeks and the return of water to their historic channels. Although changes to flow patterns might cause an increase in channel erosion and downcutting, the chance of such an occurrence is considered extremely remote, as previously discussed under FONSI Element #4. Proposed treatments will restore the natural function of these areas and allow flood flows to spread out across the natural floodplain. The proposed action is similar to the restoration projects that have been implemented within the Carman and Davies/Merril Watersheds on the Sierraville Ranger District and on the Plumas National Forest for the past 10 years without significant impacts. These projects help demonstrate the feasibility of watershed restoration techniques that are incorporated into this project. Design features included in the proposed action will reduce and minimize to the point of non-significance any impacts that might have otherwise been uncertain, unique, or unknown.

6. The degree to which the action may establish a precedent for future actions with significant effects or represents a decision in principle about future consideration.

This action will not establish a precedent for any future action, nor represent a decision in principle about a future consideration. The decision will apply only to Phase II of the Carman Creek Watershed Restoration Project, as described in Chapter One. Any future actions will be analyzed separately and on their own merits through additional environmental analysis and decision making, in compliance with NEPA.

7. Whether this action is related to other actions with individually insignificant but cumulatively significant impacts.

A cumulative effect is the effect on the environment that results from the incremental effect of the action when added to the effects of other past, present, and reasonably foreseeable future actions, regardless of what agency or person undertakes the other actions and regardless of land ownership on which the other actions occur. An individual action when considered alone may not have a significant effect, but when its effects are considered in sum with the effects of other past, present, and reasonably foreseeable future actions, the effects may be significant. Project design features and management requirements will avoid or minimize adverse cumulative watershed effects, and also protect plants, aquatic and terrestrial wildlife species, heritage and other sensitive resources to the extent that any residual effects will not be cumulatively significant. These management requirements include:

- Best Management Practices (BMPs) to control potential non-point source water quality pollution.
- Timing of project activities in the meadows during the late summer when conditions are dry to avoid soil compaction and disturbance to nesting sandhill cranes.
- Presence of a botanist on site when implementing ground disturbing activities at Sites 1 and 2 to minimize impacts to Sensitive Plants.
- Exclusion of livestock from treated areas, as needed until they are revegetated.

Evaluation of Cumulative Effects

A cumulative effect is the consequence on the environment that results from the incremental effect of the action when added to the effects of other past, present, and reasonably foreseeable future actions, regardless of what agency or person undertakes the other actions and regardless of land ownership on which the actions occur. Current conditions are used to represent the composite of past actions and natural events that have taken place within the project area. Cumulative effects analyses considered foreseeable future actions on National Forest System Lands including the continuation of grazing within the Beckwourth Allotment and fuels reduction (burning) in the Borda Project Area. Both the Beckwourth Allotment Plan and the Borda EA incorporate design features and standard management requirements to minimize environmental impacts, including effects to soil, water resources, and aquatic, terrestrial wildlife and plant species and their habitat. These requirements include site-specific BMPs, which are designed to meet the Riparian Management Objectives outlined in the 1999 HFQLG FEIS ROD, and the objectives of the Central Valley Regional Water Quality Control Basin Plan.

Soil and water resources

The primary concerns for potential negative cumulative watershed effects from the proposed action will be an increased disturbance occurring at a level that will trigger a cumulative effect and/or multiple, non-significant effects, which together will produce significant effects. The Watershed Report assesses the potential for cumulative effects from the proposed actions to soil resources, sub-watersheds, Riparian Habitat Conservation Areas (RHCAs), and water quality. The report finds that the Proposed Action will result in an increase in cumulative short-term effects, but not to such an extent that would cause

significant impacts to local and downstream water quality and other beneficial uses. Over the long term, these effects will decrease, due to the improvement in conditions within low-gradient meadow areas in the Carman Creek Watershed and within the watershed overall.

Aquatic, Plant and Terrestrial Wildlife

Biological analyses were prepared that evaluated project effects upon Forest Service Region 5 designated Sensitive species and U.S. Fish and Wildlife Service (USFWS) listed Threatened and Endangered (T&E) Species. The effects of the Proposed Action on Management Indicator Species (MIS) and their habitat were analyzed in the Management Indicator Species Report.

Aquatic Wildlife: The Aquatics BE finds that the Carman II Watershed Restoration Project will have no cumulative effects on Threatened and Endangered or Forest Service Sensitive aquatic species including: California red-legged frog, foothill yellow-legged frog, northern leopard frog, Great Basin ramshorn snail, Lahontan Lake tui chub, hardhead, Lahontan cutthroat trout, and the northwestern pond turtle, since the project area is not within the historic range of these species and there has been no documentation of these species within the analysis area. Although the area likely provided quality habitat for mountain yellow-legged frog (*Rana mucosa*) prior to the early settlement of Carman Valley, this species has not been documented within the watershed during the numerous surveys that have been conducted from the years 2000 to the present. Therefore the Carman II watershed restoration project will have no cumulative effects on mountain yellow-legged frogs.

Plants: The Plant BE finds that Alternative 1 will have no significant cumulative effects to T & E plant species, because none are known to occur on the Tahoe National Forest. Overall, implementation of Alternative 1 is expected to have a cumulative, beneficial effect on sensitive plants in the analysis area. As with the first Carman Restoration Project, watershed restoration activities are expected to improve meadow condition and function, return the areas to a more natural flow regime, and help move species composition and diversity back toward historic ranges. Monitoring has shown that the number of *Pyrrocoma lucida* plants has increased, since implementation of the first Carman Restoration Project within occurrences located in close proximity to plugs and ponds.

Generally sensitive plants that are long lived perennials, such as *Ivesia sericoleuca* and *Pyrrocoma lucida,* can survive and propagate, if impacts are spaced out over time and space and are varied from year to year. Implementation of grazing Standards and Guidelines in the Beckwourth Allotment, as directed by the 2004 SNFPA ROD is expected to continue to improve meadow and riparian conditions in the analysis area. Current management of the Beckwourth Allotment has significantly reduced the size and number of areas with concentrated heavy use, compared to historic grazing. Exclosures will minimize sheep use while plugs revegetate, and use of different camp sites on a rotational basis will allow sensitive plant occurrences to progress through the seed setting stage every few years without being browsed. Although Alternative 1 will permanently reduce the size of some *P. lucida* occurrences since excavation is necessary to connect drainages across the old railroad grade and ditch where some of these plants have developed dense clumps, proposed restoration activities will join portions of ephemeral drainages with lower sections that have not had a yearly flow of water for decades. *P. lucida* is expected to spread down the channel and become more widely dispersed in a more natural condition within these drainages. Overall,

Alternative 1 will have positive cumulative effects on *I. sericoleuca* and *P. lucida*, which will expand across the valley floor, as habitat conditions improve. In general, sensitive plants occurrences that are widely dispersed throughout potential habitat are likely to be less vulnerable to impacts, e.g., all browsed at the same time or washed out by floods, etc., than those that are concentrated in small areas. It is not expected that current private land management provides key necessary habitat components for these sensitive plants.

Wildlife: The Wildlife BE finds that implementation of Alternative 1 will have no cumulative effect to terrestrial T& E, Forest Service Sensitive, or Management Indicator Species (MIS) and their habitat, due to project design features and mitigations in the proposed action (e.g. a Limited Operating Period) during the period in which meadows are wet to mitigate any potential disturbance to nesting sandhill crane. Cumulatively, the proposed activities combined with the Carman I watershed restoration project and the Borda project thinning (that was determined to have beneficial affects to Northern Goshawk habitat within the Carman watershed) are expected to increase the species diversity and health of the riparian and forested ecosystems within the Carman watershed. These past projects combined with the Carman II project are expected to have both long- and short-term, beneficial affects to Northern goshawk. Although the Carman I project activities disturbed mountain quail habitat, within two years important riparian vegetation and cover recovered and increased above pre-restoration levels. Alternative 1 is expected to have the same beneficial effects, and therefore will have cumulative, long term beneficial effects to mountain quail habitat. Cumulative effects to black bear are not expected, since Alternative 1 will be implemented late in the summer and not likely to disturb foraging or resting bears, and will not affect early and late seral stage forest types, which provide foraging and denning habitat. The Wildlife Report finds that Alternative I will not affect the pallid and Townsend's big-eared bat, thus cumulative effects are not anticipated.

8. The degree to which the action may adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places or may cause loss or destruction of significant scientific, cultural, or historical resources.

Project implementation will have no impact on districts, sites, highways, structures, or significant scientific resources. A record search, field survey, resource inventory, and Heritage Resource Report (#R2007051700001) have been completed for this project, under provisions of the Programmatic Agreement with the advisory council on Historic Preservation and the California State Historic Preservation Office (SHPO), in compliance with Section 106 of the Historic Preservation Act. Assessment of historical and cultural resources within the project area indicates implementation of this project will not affect any heritage resource eligible for listing in the National Register of Historic Places, nor will it cause loss or destruction of any significant cultural or historical resources. If any new heritage resources are discovered during project implementation, operations will cease in the area of new discovery until adequate protection measures were agreed upon with SHPO.

9. The degree to which the action may adversely affect an endangered or threatened species or its habitat that has been determined to be critical under the Endangered Species Act of 1973.

Biological analyses document the evaluation of the potential effects of this project on federally listed threatened or endangered (T&E) aquatic, plant and terrestrial wildlife species and their habitat. The proposed action includes design elements that avoid or minimize adverse effects to these species or their habitat.

Aquatic Species: The Aquatics Report finds that the Carman II Project will not affect California red-legged frog (Federally Threatened) or Lahontan cutthroat trout (Federally Threatened), since the Carman Creek Watershed is outside their historic range and no documentation of these species has been made during surveys within the analysis area.

Plants: The Plant BE determines that implementation of Alternative 1 will not impact any T&E plant species, as none are known to occur on the Tahoe National Forest at this time.

Terrestrial Wildlife: The project area contains suitable habitat for bald eagle, a federally listed threatened species. However, the Wildlife Report finds that no bald eagles nests are located within the project area and no bald eagles have been reported foraging in the areas proposed for treatment. Therefore this project will have no effect on this species or its habitat. The BE also finds that the project areas are outside the range of the elderberry longhorn beetle, also federally listed as threatened, and therefore will not affect this species or its habitat.

10. Whether the action threatens a violation of Federal, State, or local law or requirements imposed for the protection of the environment.

The Proposed Action will not threaten a violation of Federal, State, or local law, or requirements imposed for the protection of the environment. The Proposed Action is fully consistent with the Endangered Species Act (see #9 above) and the Tahoe National Forest Land and Resource Management Plan (LRMP), as amended by the 2004 Sierra Nevada Forest Plan Amendment FSEIS Record of Decision. This EA is in full compliance with the National Environmental Policy Act.

- **National Forest Management Act (NFMA) of 1976**

The Proposed Action complies with the NFMA primarily through compliance with the Standards and Guidelines in the Tahoe NF LRMP, as amended by the 2004 SNFPA FSEIS. The primary LRMP resource management goals and objectives, as amended that guide the proposed actions include:

- **Achievement of the goals and objectives of the HFQLG Forest Recovery Act (1998) and the HFQLG Forest Recovery Pilot Project:**
  The Final Environmental Impact Statement for the Herger-Feinstein Quincy Library Group Forest Recovery Act (HFQLG FEIS), which directs forest management and watershed restoration within portions of the Plumas, Lassen, and Tahoe National Forests, requires the adoption of riparian management direction as described by the Scientific Analysis Team's (SAT) Guidelines. The objectives for riparian areas and the recommendations for management direction are summarized in Appendix L of the

HFQLG FEIS. In general, the HFQLG FEIS guidelines prohibit activities within the Riparian Habitat Conservation Area (RHCA), unless they are designed to maintain or restore the structure and function of the RHCA and/or benefit fish habitat. Implementation of Alternative 1 will achieve the goals and objectives of the HFQLG Pilot Project for riparian management and is consistent with the Scientific Analysis Team (SAT) guidelines outlined in the 1999 HFQLG FEIS ROD. Specifically, the proposed action is consistent with the 10 Riparian Management Objectives (RMO) presented in the HFQLG ROD.

a. Protection of aquatic, riparian and meadow ecosystems associated species, and botanical resources:

Alternative 1 is designed to protect and improve aquatic, riparian and meadow ecosystems, and associated species, and botanical resources, including T&E species, MIS, and sensitive plants. The ID Team has designed Alternative 1 to eliminate, reduce or mitigate existing sources of soil erosion, water pollution and/or impairment of beneficial uses of water. Although there is work proposed in and adjacent to streams and meadows and short-term disturbances are expected, no significant effects to water quality are anticipated, as discussed under FONSI Element # 3-Wetlands.

Aquatic Wildlife

The proposed project area was evaluated to determine which Threatened, Endangered and Sensitive species might occur based on the presence of required habitat and/or known species locations. As discussed under FONSI Elements # 7 and 9, the Aquatics BE has determined that implementation of the Carman II Watershed Restoration Project Proposed Action will not affect: California red-legged frog, foothill yellow-legged frog, northern leopard frog, Great Basin ramshorn snail, Lahontan Lake tui chub, hardhead, Lahontan cutthroat trout, and the northwestern pond turtle or mountain yellow-legged frog.

Sensitive Plants and Noxious Weeds

Field surveys were conducted where ground disturbance might occur for occurrence or suitable habitat for Forest Service Sensitive Plants. The Plant BE documents the occurrence of the sensitive plants *Pyrrocoma lucida* and *Ivesia sericoleuca* within portions of the Carman II Watershed Improvement Project area. Implementation of Alternative 1 will result in the removal of portions of five *P. lucida* occurrences, which occur where the railroad grade has dissected eleven seasonal drainages and captured them in a constructed ditch in Site 2. Through project design, efforts will be made to avoid impacting these plant occurrences where possible. The distribution of *P. lucida* will change to a more natural condition for these plants, which is to be a more sparse distribution throughout their habitat, rather than being clumped in artificial ditches along the railroad grade. Such distribution will likely reduce the impacts from sheep browsing, because it will be less likely that plants would all be browsed if they were more widely distributed. Proposed restoration activities in Site 1 could impact individual plants within a *P. lucida* occurrence, which is located where continual downcutting of the main channel in Folchi Meadows has dewatered the valley floor. Although individual plants could be impacted by being flooded in a pond or buried in a plug, restoration activities will expand the area of potential habitat. The Proposed Action will effectively increase the length of time during the summer season that water is available to

provide habitat of *P. lucida* by reversing the down cutting that has been draining the valley for decades, and will redirect flow down other remnant ephemeral channels that could also become *P. lucida* habitat. The Proposed Action has the potential for beneficial effects to the occurrence of *Ivesia sericoleuca* within Site 1. Proposed restoration activities at Sites 1 and 2 will provide indirect benefits by restoring the watershed to retain water for longer periods during the summer season, which could benefit the long term survival of this plant occurrence. There is the possibility that the area of potential habitat for this species may be increased by increasing the available water to the site.

Project design features are intended to protect a known fen located from disturbance that might dewater the fen during the implementation of restoration activities. The fen is located near the center of Site 1. Proposed restoration activities have the potential for beneficial effects to by stabilizing the drainages that are down cutting toward the base of the fen. The fen provides potential habitat for the sensitive plants *Botrychium* species, *Meesia triquetra* and *M. Uliginosa.*

Pyrrocoma lucida: The Plant BE determined that implementation of Alternative 1 will impact several hundred individual *Pyrrocoma lucida* plants because portions of known occurrences in the main stream channel in Folchi Meadows will be directly impacted during restoration activities, i.e. buried in a in a plug or flooded in a pond. However, these impacts will not likely cause a trend toward federal listing, since several thousand *Pyrrocoma lucida* plants would be unharmed. Furthermore, implementation of Alternative 1 may effectively expand potential habitat for *Pyrrocoma lucida,* because restoration activities will result in increased water retention within the valley floor for longer periods of time during the summer months and will reconnect ephemeral drainages that will restore habitat.

Ivesia sericoleuca: The Plant BE determined that implementation of the Carman Restoration II Project will not directly impact individual *Ivesia sericoleuca* plants because the occurrence location will be avoided by restoration activities, however slight indirect effects will be expected. Indirect and cumulative effects will not likely cause a trend toward federal listing since more water will be retained within the valley floor for longer periods of time during the summer months, creating more potential habitat within the reconnected ephemeral drainages and vernal pools that will restore potential habitat for *Ivesia sericoleuca*.

Weeds: The Weed Risk Assessment for the Carman II Watershed Restoration Project was completed, as required by the Tahoe National Forest Land Management Plan, as amended by the January 2004 SNFPA FSEIS ROD. According to the Weed Risk Assessment, weeds that are known to occur in the vicinity of project activities include bull thistle, cheatgrass, and wooly mullein. Management requirements have been incorporated into the proposed action to reduce the risk of noxious weed invasion to a low level through the use of prevention measures.

The Weed Risk Assessment determined that there is a low risk of introducing noxious weeds into the Carman II Watershed Restoration Project area if the mitigation to let only off-road equipment that is free from dirt and weed seeds enter the project site is adhered to during project implementation.

Terrestrial Wildlife

Species occurrence and habitat were evaluated for all Federally listed species, Region 5 Sensitive species, and Tahoe National Forest Management Indicator Species (MIS) that may occur in or be affected by projects in the area of the Tahoe National Forest (United States Fish & Wildlife Service website check May 21, 2007; Regional Forester's Sensitive species list revision, June 8, 1998, Tahoe National Forest Land and Resource Management Plan 1990). As discussed under FONSI element #9, the Wildlife Report determined that implementation of the Carman II Project Proposed Action will not affect T&E wildlife species or their designated critical habitat.

Forest Service Sensitive Species:

The Wildlife Report makes the following determinations regarding the effects of the proposed watershed restoration activities on sensitive species:

California spotted owl: No effect on the species or its habitat, due to lack of suitable habitat within the project area

Great gray owl, Pacific fisher, American marten, Sierra Nevada red fox, and California wolverine: No effect on these species, due a lack of detections and a general lack of suitable habitat within the project area

Pallid and Townsend's big-eared bat: No effect, based on lack of suitable habitat within proposed activity sites. It is possible both species will indirectly benefit in the long term from the restoration activities as prey may become more available.

Western red bat: No effect, since the project area lies outside the species' range.

Northern goshawk (NOG0): No negative effects on NOGO or its habitat. The Carman Watershed was surveyed to the current R-5 survey protocol for Northern goshawk (NOGO) during the Borda Project analysis. One historic NOGO Protected Activity center (PAC) occurs west of McPherrin Sheep Camp, and a new PAC was delineated for a nesting pair of NOGO 1½ miles north of the camp. Northern goshawks are dependent on mid to late seral forest for nesting, and have been documented foraging on edge habitat. Because the project activities are greater than ½ mile from NOGO nesting areas, and do not affect older forested stands the proposed activities will have no direct effects to nesting Northern goshawks. Proposed activities may have beneficial indirect effects for foraging goshawks by improving associated riparian habitats and thereby potentially increasing such prey items as, voles, rodents, and songbirds.

Willow Flycatcher: No effect on the willow flycatcher because: no breeding willow flycatchers have been detected in the Carman watershed area, project activities will not affect the willow communities where the individual willow flycatchers have been detected, watershed restoration work will not occur in the vicinity of any known or expected nesting willow flycatchers, and the proposed meadow restoration project activities have the potential to improve the quality of habitat for nesting/foraging willow flycatchers.

Sandhill Crane: Implementation of the Carman II Project may affect individuals, but is not likely to result in a trend toward Federal listing or loss of viability for the greater sandhill crane within the planning area of the Tahoe National Forest. To protect nesting greater sandhill crane from disturbance when noise generating activities occur within Section 5 in

T21N, R14E (Sites 1 and 2), a limited operating period (LOP) will be required from April 1st through August 1st. This LOP may be modified by the District Wildlife Biologist if surveys determine nesting will not be affected within ¼ mile of the proposed activities. Since by design, the proposed activities will not occur when the meadow is wet, direct effects to nesting cranes are not expected. Breeding sandhill cranes should benefit from the indirect effects of increased foraging, safety, and breeding habitat, as the meadow system recovers. This beneficial effect was observed one year after implementation of the Carman I project.

In the absence of a range-wide viability assessment, these viability determinations are based on local knowledge of these species and professional judgment. The BE finds that the proposed action will not lead to a trend toward federal listing or affect the viability of the above listed R5 Sensitive species.

Management Indicator Species (MIS)

The Wildlife Report determined that the Carman II project-level habitat impacts will not alter or contribute to existing forest-wide trends for the following MIS: bald eagle, American peregrine falcon, California spotted owl, great gray owl, northern goshawk, willow flycatcher, pacific fisher, American marten, Sierra Nevada red fox, band-tailed pigeon, black bear, blue grouse, gray squirrel, mule deer, and wild turkey. The determination for bald eagle is based on the lack of bald eagle nests or reports of foraging eagles in the treatment areas. For other MIS, the determination is based on the lack of suitable habitat, the lack of detections, or no anticipated effects to indicator habitat depending on the species. The Wildlife Report determined that the Carman II project-level habitat impacts will alter existing forest-wide trends for the mountain quail by increasing the quality and quantity of suitable habitat for this species. The MIS Report contains a more detailed discussion on the following MIS and identifies the habitat type for which the TNF has selected these species for monitoring project effects:

Northern goshawk (mature conifer forest types): The Wildlife Report determines that the Carman II project will have no negative effect on NOGO or its habitat, therefore the project-level habitat impacts will not alter or contribute to existing forest-wide trends for this species or its habitat.

Willow flycatcher (riparian shrub and wet meadow systems): The Wildlife Report determines that the Carman II project will have no negative effect on willow flycatcher or its habitat, as previously discussed. Therefore the project-level habitat impacts will no have any effect on forest-wide trends in the short term, but will have potentially positive effects to forest-wide trends in the long term if willow flycatchers began to nest in the Carman watershed.

Black bear (late seral stage forest types): The Wildlife Report determines that the project-level impacts will not alter or contribute to the existing forest-wide trends for black bear. Black bear are known to occur within the Carman watershed, and throughout the TNF and utilize early and late seral stage forest type habitat for denning and foraging. The proposed Carman II activities are designed to have no effect on these seral stage forest types. It is possible the noise from project activities may disturb foraging or resting black bears, but since the timing of the proposed activities will be late in the season and well past the time when cubs are less mobile the potential disturbance will be minimal.

Mountain quail (open, brushy conifer and deciduous forest and woodland chaparral): The Wildlife Report finds that the project-level impacts will have a positive effect on the forest-wide trends of mountain quail by increasing the quality and quantity of habitat for this species. Mountain quail occur throughout the Carman watershed and the TNF. Quail are known to be highly associated with stream courses and meadow habitats, in which proposed activities are located. The restoration activities will occur late in the summer season after the mountain quail breeding season has occurred and are unlikely to directly affect the quail. Temporary disturbance of coveys is expected to be minimal and short in duration, as observed during implementation of the Carman I project activities. Within two years, riparian vegetation and cover recovered and increased above pre-restoration levels. It is expected the Carman II project will have the same beneficial effects to mountain quail habitat.

Note: NFMA requirements detailed in FSM 1921.12- Vegetation Management Requirement do not apply to this project, since vegetation management is not proposed, other than revegetation of disturbed sites following restoration activities.

Clean Water Act

The implementation of Best Management Practices, erosion control measures required in the Carman restoration area will protect the beneficial uses of waters within the Beckwourth Allotment. Therefore, no irreversible or irretrievable impacts to water quality will occur and the requirements under the Clean Water Act will be met.

Water Quality Control Plan for the Central Valley Region (Basin Plan) Basin Plan Water Quality Objectives:

The water quality objectives for beneficial uses that could potentially be affected by implementation of Alternative 1 include sediment, turbidity, and to a lesser degree oil and grease. As discussed in the Watershed Report, the Proposed Action is designed to ensure that the objectives of the Basin Plan are met to protect and/or enhance beneficial uses of water, as follows:

Oil and Grease: Proper application of BMPs provides for the managing of petroleum products to protect beneficial uses. The management actions to be taken require servicing and refueling outside of RHCAs and include spill contingency plan requirements. Equipment is required to be inspected for leaks before and during project implementation. These measures ensure that activities associated with the use of petroleum products used under this project will not adversely affect water quality or beneficial uses.

Sediment and Turbidity: BMPs and project design criteria will be used to control sediment in areas affected by the proposed action. BMP requirements for revegetation will result in reduced sediment input and turbidity. BMPs provide erosion control measures to address any concerns related to operations. While an increased risk of erosion may typically occur for 1 to 3 years after disturbance, implementation and effectiveness monitoring, through the forest wide BMP monitoring program, have shown the BMP methods to be effective. The overall result of the proposed project is that current levels of sediment delivery will be reduced. Turbidity consists of the inorganic and organic particles that reduce water clarity. Typically increases in turbidity from sediment are observed during runoff events. These increases then

subside with the peak discharge. BMPs were integrated into the proposed action to reduce potential negative effects.

Implementation monitoring and project effectiveness monitoring will be conducted to ensure that the management requirements and mitigation measures will be properly implemented and to document that the project has the desired outcomes, as detailed in the Monitoring Plan in Appendix B.

Implementation Date

This decision is not subject to appeal pursuant to the regulations in 36 CFR 215.12 (e), as no individuals or organizations provided comment or otherwise expressed interest in the proposed action by the close of the comment period.

Administrative Review or Appeal Opportunities

Since this project is not subject to appeal as described above, the project may be implemented immediately upon the signature of this Decision Notice and the posting of the Notice of Decision in *The Mountain Messenger*, the newspaper of record, pursuant to 36 CFR 215.9(c).

Contact Person

For additional information concerning this project, please contact: Randy Westmoreland Project Coordinator, Sierraville Ranger District, P.O. Box 95, Sierraville, CA 96126, phone: (530) 587-3558 ext. 235, email: rwestmoreland@fs.fed.us

_____ _____

QUENTIN L. YOUNGBLOOD Date:

District Ranger

Sierraville District

California Regional Water Quality Control Board
Central Valley Region
Katherine Hart, Chair

415 Knollcrest Drive, Suite 100, Redding, California 96002
(530) 224-4845 • FAX (530) 224-4857
http://www.waterboards.ca.gov/centralvalley

Matthew Rodriquez
Secretary for
Environmental Protection

Edmund G. Brown Jr.
Governor

20 January 2012

Randy Westmoreland
Sierraville Ranger District
P.O. BOX 95
Sierraville, CA 96126

Gale Dupree
Sierra Valley RCD
P.O. BOX 50
Sierraville, CA 96126

CARMAN CREEK WATERSHED FOREST ECOSYSTEM HEALTH IMPROVEMENT PROJECT

It is with pleasure that the California Central Valley Regional Water Quality Control Board (Central Valley Water Board) extends its support to the US Forest Service (USFS) and Sierra Valley Resource Conservation District (Sierra Valley RCD) for the proposed project: "*Carman Creek Watershed Forest Ecosystem Health Improvement Project.*" The mission of California's Water Boards is to preserve, enhance, and restore the quality of California's water resources for the benefits of present and future generations. The Water Board is interested in supporting the USFS and Sierra Valley RCD's proposed project, as we share many of the same goals to protect and enhance water quality and sensitive aquatic habitat.

Carmen Creek is a tributary stream to the Feather River which maybe be added to the list of impaired watersheds due to low dissolved oxygen and unknown toxicity. The Carmen Creek watershed contains extensive meadow and upland habitat that has been adversely impacted by historic logging, railroad grade construction and livestock grazing—limiting the natural filtering capacity of the historical wet meadow system.

The proposed pond and plug restoration techniques and railroad grade obliteration/removal proposed for the *Carman Creek Watershed Forest Ecosystem Health Improvement Projec*t will improve water quality by: reducing active erosion in meadow and stream systems; improving the natural filtering capacity of the meadow systems; improving flood attenuation and floodplain function; and reducing the risk of high intensity, catastrophic wildfire through fuel reduction projects.

Water Board staff is knowledgeable of the primary water quality concerns on the Feather River Watershed and its tributary streams. We are committed to protect and enhance water quality and beneficial uses through our valuable partnership with the USFS and Sierra Valley RCD. The proposed project is a great opportunity to restore a degraded meadow system and forest health to help protect and enhance water quality.

Ben Letton, P.G.
Engineering Geologist
Non-Point Source Unit

Feather River

COORDINATED RESOURCE MANAGEMENT

PLUMAS CORPORATION
550 Crescent St., P.O. Box 3880 Quincy, CA 95971 (530) 283-3739

January 17, 2011

Sierra Nevada Conservancy
11521 Blocker Drive, Suite 205
Auburn, CA 95603

Dear SNC Grant Review Committee,

The Feather River Coordinated Resource Management (CRM) group at Plumas Corporation supports the Carmen Creek Watershed Forest Ecosystem Health Improvement Project proposed in partnership by the Sierra Valley Resource Conservation District (RCD) and Tahoe National Forest. The Carmen Creek Watershed is located in the upper Feather River Watershed, within the Sierra Valley sub-watershed, which has been identified as a priority in the Upper Feather River Integrated Regional Water Management Plan (IRWMP, 2005) for sediment. The Feather River CRM has provided on-going technical and financial support to the restoration work in the Carmen Creek Watershed, and has continuing relationships with Sierra Valley RCD and Tahoe National Forest.

The Carmen Creek Watershed Forest Ecosystem Health Improvement Project would continue to build on the successes of the earlier efforts, providing cumulative benefits to the health of the watershed. The combination of upland fuel treatments with stream and meadow restoration meets the IRWMP goals of reducing sediment supply in the Sierra Valley sub-watershed, improving water quality and providing long-term protection to these improved conditions by reducing the risk of high severity wildfires in the watershed. This project exemplifies the Feather River CRM's partnership mission to protect, maintain and enhance ecosystems and community stability in the Feather River Watershed through collaborative landowner participation. The Feather River CRM fully supports this project to improve watershed and forest health in the Carmen Creek Watershed and would provide technical assistance on project implementation, if needed.

Sincerely,

Gia Martynn,
Watershed Coordinator

United States Department of Agriculture

NRCS
Natural Resources Conservation Service
American Indian Liaison – CA Statewide
PO Box 3562
Quincy, CA 95971
(530) 283-7513 office
(530) 304-8961 mobile

January 20, 2012

Sierra Nevada Conservancy
11521 Blocker Drive, Suite 205
Auburn, CA 95603

Re: Carmen Creek Watershed Forest Ecosystem Health Improvement Project

I am writing this letter in support of the efforts of the Sierra Valley Resource Conservation District (SVRCD) and the USDA Forest Service to improve watershed health in the Carmen Creek Watershed.

NRCS offices throughout the state have working relationships with their local Resource Conservation Districts and are committed to working with our partners to achieve resource conservation on the ground. The Carmen Creek Watershed Project is another good example of this partnership and I look forward to working with SVRCD in helping to identify tribes interested in the project.

Sincerely,

/s/

Reina Rogers
CA Statewide Tribal Liaison

United States Department of Agriculture

NRCS

Natural Resources Conservation Service
California State Office
PO Box 3562
Quincy CA, 95971
(530) 283-7511
(530) 283-7736 (Fax)

Helping People Help The Land

To: Sierra Nevada Conservancy
11521 Blocker Drive, Suite 205
Auburn, CA 95603

1-17-12

Re: Carmen Creek Watershed Forest Ecosystem Health Improvement Project

The USDA Natural Resources Conservation Service Quincy Local Partnership Office supports the efforts of the Sierra Valley Resource Conservation District (SVRCD) and US Forest Service to improve forest and watershed health in the Carmen Creek watershed.

My office has worked with the staff of the SVRCD for many years on projects and USDA Program contracts throughout the county, including being a partner during Phase I of the Carmen Creek restoration project. Phase I was successfully implemented by the SVRCD and successfully completed in 2005. I am confident that the SVRCD will be able to successfully complete Phase II as presented in this proposal.

The NRCS looks forward to working with the SVRCD on this project. Feel free to contact me about this letter of recommendation or how this Grant will complement NRCS projects already completed in the watershed. My office phone is 283-7511, cell is 218-0825, and email is dan.martynn@ca.usda.gov.

Sincerely,

Terri M. Rust

Terri M. Rust (for Daniel Martynn)

Dan Z. Martynn
District Conservationist
Plumas / Sierra Co's

19440 Valley View Dr
Greenville Ca, 95947

January 20, 2012

Sierra Nevada Conservancy
Auburn, California

Dear SNC Board:

The Feather River Resource Conservation District is a neighboring District that works hand-in hand as a partner with the Sierra Valley RCD. The FRRCD as a partner with the SVRDC supports the grant application submitted by the Sierra Valley Resource Conservation District for Carman Meadows III Project.

I have visited the site and agree this is a worthy high priority project for stream restoration and forest thinning to reduce forest fire hazard In the Upper Feather River Watershed.

Additionally, this area has great potential of increasing the quality of the wildlife habitat available for numerous species of wildlife.

Sincerely,

Phillip Noia

Phillip Noia
Chair/President

United States Department of Agriculture
Forest Service
Sierraville Ranger District
P.O. Box 95
Sierraville, CA 96126
530-994-3401
530-994-3521 TDD
530-994-3143 FAX

File Code: 2510
Date: January 18, 2012

Sierra Nevada Conservancy
11521 Blocker Drive Ste. 205
Auburn, CA 95603

Dear SNC Grant Review Committee,

I am respectfully supporting the Carman Creek Watershed Forest Ecosystem Health Improvement Project to the Sierra Nevada Conservancy for potential consideration under the Proposition 84 Healthy Forests Grant Program. The above project is being remitted by the Sierra Valley Resource Conservation District (SVRCD) as a Category 1- Site Improvement/Restoration Project. The SVRD is a primary and important partner with the Tahoe National Forest to complete this project. All requirements under the National Environmental Policy Act have been completed including signed Decision Notices and Findings of No Significant Impact in the summer of 2008 for the watershed restoration work and in 2012 for the forest thinning work. Implementation of these projects would focus on restoring the West Fork of Carman Creek Watershed. Specifically, the project includes 120 acres of hand thinning, steam and meadow restoration at four sites including removal of features that will impede the natural flow of water in numerous locations as well as restoring flows back to the original channels. It also includes the removal of portions of existing railroad grade, construction of a rocked, low water crossing, installation of culverts, and the closure of down cut channels using a series of native soil plugs to restore historic flow to the meadow system.

Implementation of this project would complement existing completed restoration within Phase I of the lower watershed of Carmen Creek. The project is designed to ensure that the objectives of the Central Valley Region Basin Plan are met to protect and enhance beneficial uses of water. The Sierraville Ranger District has a proven track record with watershed restoration and working with partners to ensure implementation is accomplished in a timely manner. I look forward to future coordination to reach our mutual goals of restoring watersheds. Please feel free to contact Randy Westmoreland and Deborah Urich at (530) 587 – 3558 for further information and clarification.

Sincerely,

/s/ Quentin Youngblood
QUENTIN L. YOUNGBLOOD
District Ranger

COUNTY OF SIERRA
BOARD OF SUPERVISORS

PO Drawer D
Downieville, CA 95936
Telephone: (530) 289-3295
Fax: (530) 289-2830

February 24, 2012

Sierra Nevada Conservancy
11521 Blocker Drive
Suite 205
Auburn, California 95603

Attn: Mr. Jim Branham
Executive Officer

Dear Mr. Branham:

Thank you for your notice of grant applications being evaluated by the Sierra Nevada Conservancy for projects that are proposed for funding within Sierra County. The Board of Supervisors appreciates the opportunity to evaluate these projects and offer any appropriate comments.

The Board of Supervisors on February 21, 2012 discussed these projects and have requested that comments be forwarded to you for consideration before any decision is rendered regarding grant award. The following comments are offered:

1) **Project 457-The Nature Conservancy-Forest Restoration and Fuel Reduction Treatments-Independence Lake Property.** The Board of Supervisors supports this project as it is consistent with the Board of Supervisors highest priority goals for funding.
2) **Project 482-Sierra County Land Trust-Easement/Acquisition/Landowner Agreement-Lusk Meadows Parcel.** The Board of Supervisors opposes this proposed project on the basis that it appears to be an easement acquisition with little public benefit. There is no working landscape or working operation (family ranch, forest or agricultural land in a working state) on this extremely small parcel (60 by 100 foot parcel) which sits among other like-sized parcels. Such acquisition would not be truly consistent with the spirit of the SNC grant guidelines and thus would not be a proper use of funds. Additionally, the proposal is not consistent with the highest priority use of funds, that being fire fuel reduction, forest treatments and forest health, as has been determined by the Board of Supervisors.
3) **Project 500-USDA Forest Service Weed Treatments**. The Board of Supervisors has no comment.
4) **Project 509-Sierra Valley Resource Conservation District-Carman Creek Watershed.** The Board of Supervisors supports the fuel treatment and forest health component of this project but opposes any funding toward watershed restoration that employs the "plug and pond" method of treatment until further study is done that

identifies and analyzes any adverse impacts, including impacts to downstream water users and existing water rights. The Board of Supervisors urges funding of only the fuel treatment phase of the proposed project.

5) **Project 512-USDA Forest Service Weed Treatments**. The Board of Supervisors has no comment.
6) **Project 542-Plumas Corporation-Meadow Carbon Markets**. The Board of Supervisors opposes funding of this proposed project as it competes with the highest priority use of funds for fuel reduction and forest treatments as determined by the Board of Supervisors. Further, the Board of Supervisors has not been consulted on this proposed project by the applicant agency.
7) **Project 575-SedCorp/EPIC-Biomass Facilities Study**. The Board of Supervisors opposes the use of funds for this proposed project. This proposed project does not facilitate the highest priority use of funds as determined by the Board of Supervisors. This project is not an on-the-ground treatment and is a study that the Board of Supervisors has determined is not necessary nor will it be in the best interest of its priority level of support for the biomass power plant at Loyalton.
8) **Project 584-USDA Forest Service-Weed Treatment EA-Smithneck**. The Board of Supervisors opposes the use of funds for the proposed project as it is not consistent with the highest priority uses of funds as determined by the Board of Supervisors. The Board of Supervisors further noted that this proposed project is an administrative function that should be a responsibility of the requesting agency and by proposing use of funds for such projects, the potential use of funds for on-the-ground treatments is diminished.
9) **Project 595-Sierra County Fire Safe and Watershed Council-West County Fuel Reduction**. The Board of Supervisors supports this project as it matches the highest priority use of funds as determined by the Board of Supervisors. The Board of Supervisors has already forwarded a resolution and letter of support to the Conservancy for this proposed project.
10) **Project 610-Sierra County Land Trust-Acquisition/Easement/Landowner Agreement-Lusk Meadows**. The Board of Supervisors opposes the use of funds for this proposed project for the very same reasons as outlined for "Project 482" as described in paragraph 2 herein.
11) **Project 613 and 620-California Invasive Plant Council**-The Board of Supervisors has no comment.

Thank you and if you have any questions or desire further information, please contact the Board of Supervisors at your earliest convenience. We will look forward to your reply

Sincerely,

Sierra County
Board of Supervisors

Peter W. Huebner
Chairman of the Board

a. Detailed Budget - Budget sheet attached – summary shown below.

Table 1. SNC Project Costs for Carman Creek Watershed Restoration Phase II.

PROJECT BUDGET CATEGORIES	TOTAL SNC FUNDING
Direct Costs	$ 293,650
Indirect Costs	$ 10,698
Administrative Costs	$ 45,652
SNC GRANT TOTAL	**$ 350,000**

b. Restrictions, Technical Documents, and Agreements

Regulatory Requirements/Permits (401 & 404) – Applications have been submitted and will be in place for implementation.
CEQA – These projects are exempt under CEQA. Notice of exemption attached.
NEPA – Decision Notices attached

c. Cooperation and Community Support

The following entities have provided letters of support (letters attached):

- California Regional Water Quality Control Board (Central Valley Region)
- Feather River Coordinated Management Group
- Natural Resource Conservation Service – American Indian Liaison
- Natural Resource Conservation Service – District Conservationist, Plumas/Sierra Counties
- Feather River Resource Conservation District
- US Forest Service

d. Long-term Management and Sustainability

Long term management plan:
This site improvement project will occur on public lands managed by the US Forest Service under the 1990 Tahoe National Forest Land and Resource Management Plan (LRMP), as amended by the 2004 Sierra Nevada Forest Plan Amendment (SNFPA) FSEIS Record of Decision (ROD), and HFQLG ROD Tahoe National Forest Land Management Plan. These plans direct long-term management of public lands on the Tahoe NF in perpetuity. The US Forest Service will monitor the projects for stability and function for 10 years. The US Forest Service will perform long-term management of the Carman Creek watershed. The US Forest Service has managed many similar areas to protect resource values in the past. All land management activities, including these projects, are subject to specific Best Mangement Practices (BMPs) & Management Requirements/Mitigations detailed in the Tahoe NF LRMP as well as additional resource protection measures. In addition, all projects must implement all requirements of the Central Valley Water Quality Control Board (CVWQCB) and be permitted through the CVWQCB, as well as the Army Corps of Engineers, as required.

Tahoe National Forest
Sierraville Ranger District

Carman II Watershed Restoration Project 2011

Carman Creek Watershed

2 **Restoration Site With Identifier**

Hand Thin

N

Road Classification

- Highway
- Improved Road
- Local/Dirt Road

Land Ownership

- National Forest Land
- Private or Other

Stream (USGS)

- Intermittent
- Perennial
- Spring

Scale = 1 : 41,000
Contour Interval = 40 ft.

0 0.3 0.6 1.2 Miles

Data source: TNF Geospatial Database.
Projection: UTM Zone 10, NAD83, GRS 1980.
Prepared by Eastzone GIS sh 12/12/2011.

Portola

East Fork Carman Creek Watershed

West Fork Carman Creek Watershed

Folchi Watershed

McPherrin Camp

Calpine

1 2 3 4 5 6 7 8

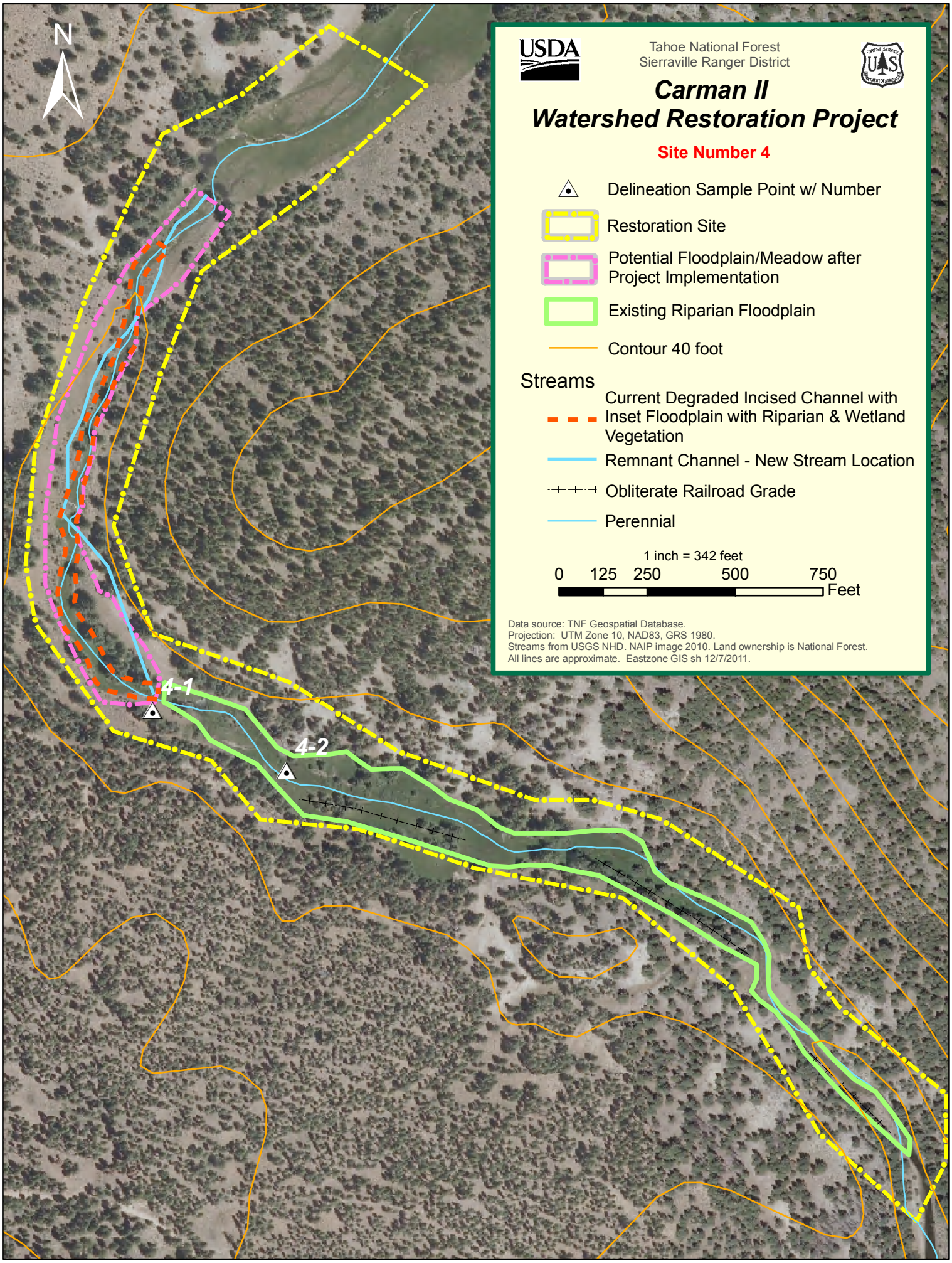
70 89 A23

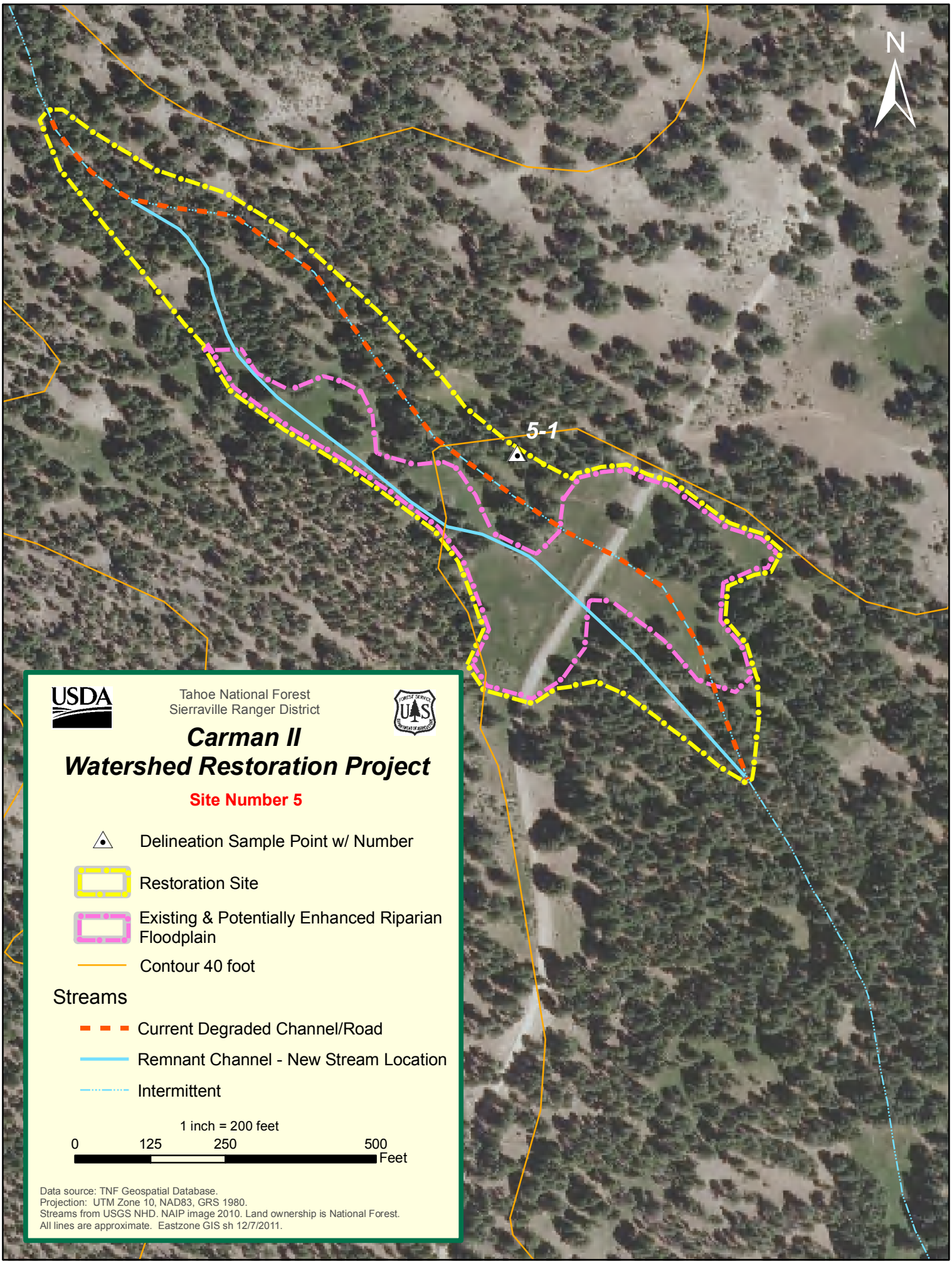
714000 716000 718000 720000 722000 724000

4408000 4405000 4402000 4399000 4396000

PARCEL MAP

Parcel map is not considered critical information for purposes of this project, as the project is not and acquisition and will take place on Federal lands.


N
USDA
Tahoe National Forest
Sierraville Ranger District
Carman II
Watershed Restoration Project
Site Number 4
Delineation Sample Point w/ Number
Restoration Site
Potential Floodplain/Meadow after Project Implementation
Existing Riparian Floodplain
Contour 40 foot
Streams
Current Degraded Incised Channel with Inset Floodplain with Riparian & Wetland Vegetation
Remnant Channel - New Stream Location
Obliterate Railroad Grade
Perennial
1 inch = 342 feet
0 125 250 500 750
Feet
Data source: TNF Geospatial Database.
Projection: UTM Zone 10, NAD83, GRS 1980.
Streams from USGS NHD. NAIP image 2010. Land ownership is National Forest.
All lines are approximate. Eastzone GIS sh 12/7/2011.
4-1
4-2



USDA

Tahoe National Forest
Sierraville Ranger District

Carman II
Watershed Restoration Project

Site Number 5

- Delineation Sample Point w/ Number
- Restoration Site
- Existing & Potentially Enhanced Riparian Floodplain
- Contour 40 foot

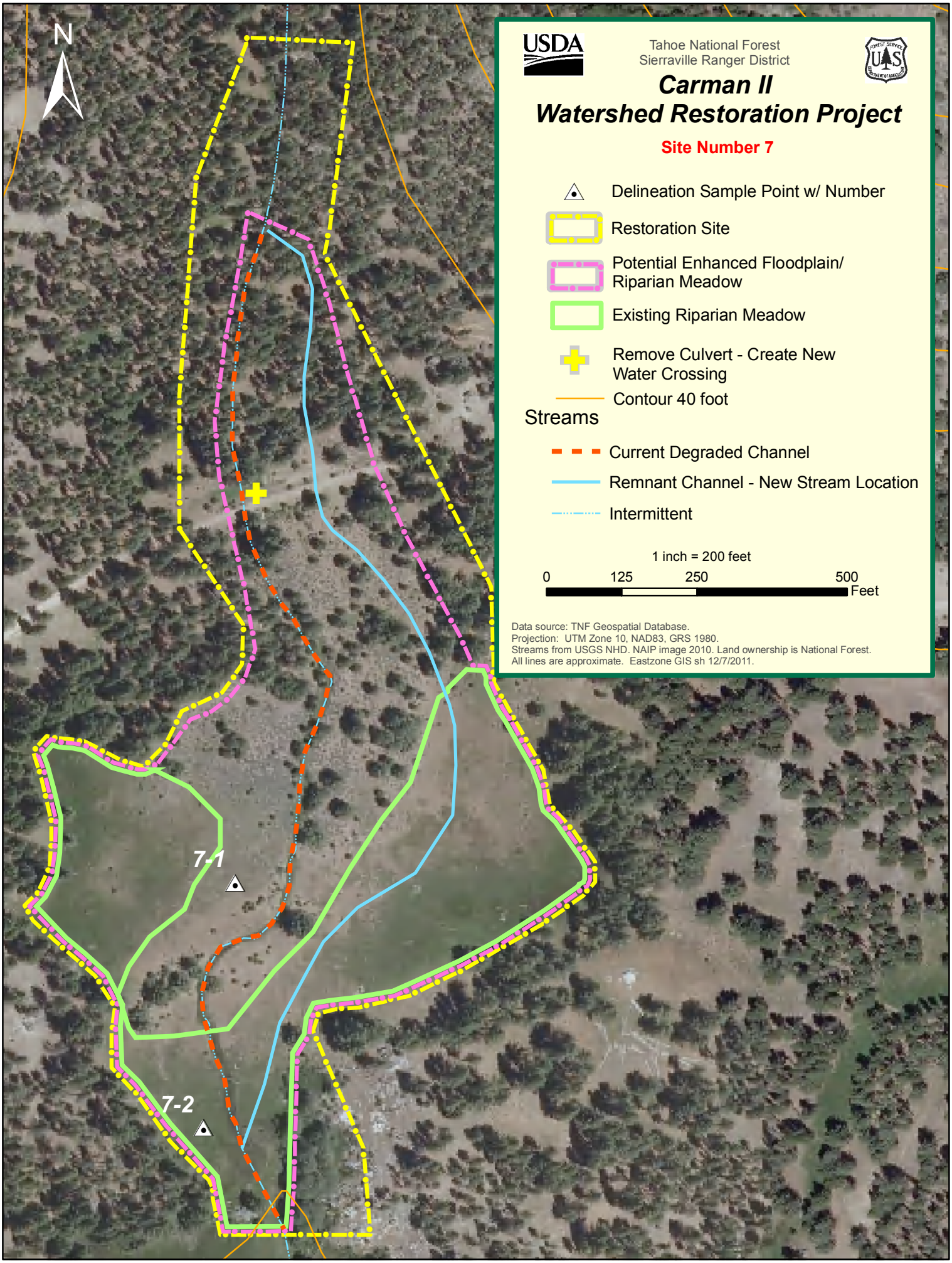
Streams

- Current Degraded Channel/Road
- Remnant Channel - New Stream Location
- Intermittent

1 inch = 200 feet

0 125 250 500 Feet

Data source: TNF Geospatial Database.
Projection: UTM Zone 10, NAD83, GRS 1980.
Streams from USGS NHD. NAIP image 2010. Land ownership is National Forest.
All lines are approximate. Eastzone GIS sh 12/7/2011.


N
USDA
Tahoe National Forest
Sierraville Ranger District
Carman II
Watershed Restoration Project
Site Number 7
Delineation Sample Point w/ Number
Restoration Site
Potential Enhanced Floodplain/
Riparian Meadow
Existing Riparian Meadow
Remove Culvert - Create New
Water Crossing
Contour 40 foot
Streams
Current Degraded Channel
Remnant Channel - New Stream Location
Intermittent
1 inch = 200 feet
0
125
250
500
Feet
Data source: TNF Geospatial Database.
Projection: UTM Zone 10, NAD83, GRS 1980.
Streams from USGS NHD. NAIP image 2010. Land ownership is National Forest.
All lines are approximate. Eastzone GIS sh 12/7/2011.
7-1
7-2

Site 7

Top Left – Looking north at active headcut
Top Right – Looking south from headcut. Note incision and active erosion.
Bottom – Looking south at middle portion of gully. The gully continues out of site

Site 4 – looking southwest down section proposed for plug and pond. Note the incision and active bank erosion. This section shows the disconnection with the adjacent old floodplain.

Site 6 - Railroad grade capture of intermittent stream.
Top – Looking up from the bottom. Captured stream flowing down railroad grade through cut. The natural stream is on the right of the berm.
Bottom – Looking up the old railroad grade about mid way up the through cut.

SITE PLAN

Site plans are overlaid on the maps, which are in the EZ Grants file in the uploads section.